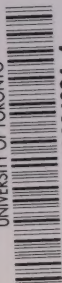


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The Canadian Dental Association

JOURNAL

L'Association Dentaire Canadienne

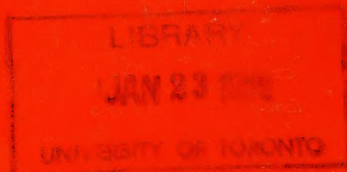
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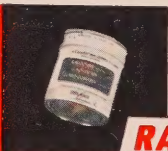
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The Canadian Dental Association

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JOURNAL

Clinical Orthodontics

Ch. F. L. Nord, D.Sc., F.D.S., D.D.O., Amsterdam, Holland.

INTRODUCTION

Having been asked to write a paper for the Journal of the Canadian Dental Association, which communicates methods or procedures to provide orthodontic service more widely than they are presently disseminated, I very willingly will try to state our principles and indicate the kind of work we are doing in our orthodontic clinic in Amsterdam. We see about 1,500 new patients a year, and treat approximately 3,500, with the help of 4 dentists, working 4 chairside hours a day, 4 chairside assistants, a secretary and a laboratory, with two men in the plasterroom and four in the laboratory.

As it is quite impossible in a short paper to go into great detail, I will, therefore, try to lay stress on what is practical

although I fear this will now and then be controversial.

In the first place I want to point out that we must be very careful in Orthodontics to allow for differences in the various countries and climates. Questions of race (skull form), diet, customs during the growth period (breast and bottle feeding, percentage of mouthbreathers, and others) all play a role, both in the number of anomalies and in the necessary therapy.

Notwithstanding these facts, we find in the literature that in most countries from which statistics are published, at least 50% of the schoolchildren have orthodontic anomalies and that most certainly half of them need treatment very badly. This means that at least 25% of the schoolchildren ought to be treated and for Canada with its 16 million inhabitants, the

consequence is that there will be on an average of 265,000 schoolchildren every year, about 65,000 seriously requiring orthodontic treatment.

I have been informed that Canada has approximately 80 certified orthodontists and an additional 20 to 25 limit themselves to orthodontic practice, so that each of them should have at least 650 new patients per annum. If one accepts the statement of many orthodontic leaders in the U.S.A., that 50 new patients a year in total (Strang) should be the limit for a specialist, the need for Canada would come to about 1,300 orthodontists! When we further know that these specialists are not equally divided across the country, but that the great majority are established in a few big cities, the problem becomes even more serious.

It means, virtually, that it is impossible for more than a token number of children to be cared for. Orthodontics would be of no great social importance, and help could only be given to relatively few children.

However, happily, experience has taught us that the viewpoint of the men above mentioned is untenable, because for approximately 30 years we have been able to prove that children can be helped in a much larger proportion. Also in a great number of cases the General Practitioner can do much without the help of the Specialist.

The reason for these different points of view lies in the fact that there is a vital difference in the way orthodontic treatment is approached by the followers of these schools of thought. The one is of opinion that Orthodontics is an extremely difficult specialty. Further that it is the science of Dento-Facial Orthopaedics requiring a knowledge of quite a number of branches of medicine and biology, without which knowledge orthodontic treatment should not be undertaken. The other thinks that although we still have much to learn about the problems of growth and heredity, clinical experience shows that good results can be obtained without extensive recourse to cephalometric radiography with tracings and drawings. These

are costly procedures in time, energy, and money, and as far as I can judge, do not necessarily lead to better treatment of the patient.

Dr. Alan Brody of Chicago remarked at the 6th Congress of the "Club International de Morphologie faciale" (Lausanne, August, 1957), that "Cephalometric Radiography was very valuable from the scientific point of view, but not for group research and not for daily practice." At the XIIth International F.D.I. Congress in Rome, held in September 1957, Schwarz (Vienna), Muzi (Rome), Beauregardt (Paris) were of the same opinion. They all agreed that although cephalometrics were of great importance for research, in daily practice the stress should be laid on the examination of the patient.

For many years I have defended the idea that from the practical point of view Orthodontics is not a difficult branch of Dentistry, although it is admitted that the dentist who wants to practise it with success must have, apart from the necessary knowledge, a certain orthodontic feeling which cannot be acquired. In this respect he is in the same position as the Prosthodontist who will never be a real success if he lacks a natural feeling for aesthetics and art — a feeling which the University will not be able to impart to him. However, every dentist who has received a good training as a student can obtain satisfactory results in a large percentage of orthodontic cases, if he attacks his problems without an inferiority complex and with common sense.

AETIOLOGY

In the orthodontic textbooks of half a century ago, we find that the various experts tell us that anomalies in the deciduous dentition practically do not exist and that the troubles only start in the permanent dentition. Angle (1900) states that in the deciduous dentition anomalies very seldom occur and that if this is the case, the irregularity is usually of such a simple nature that it seems hardly advisable to do something for its

correction. Kronfeld (1922) in his book on "Children's Teeth" says that, orthodontically speaking there are practically only the teeth of the second dentition to consider, since, in the mixed dentition, malocclusions are rare and of so simple a nature that they do not need treatment.

All these men had vast experience and were shrewd observers, so that it seems most unlikely that they all were wrong and since to-day not even the youngest dental practitioner would accept such a statement, there must be a reason for it.

Those who have studied the pictures of famous portrait painters of the past centuries will have observed, that apart from a few Class III cases, they will not find the Class II ones, which are so common to-day.

We do not find these Class II cases mentioned in the publications of the men who have studied and demonstrated the dentitions of aborigines, e.g., Eskimos, Australians, Aleuts (Pedersen, Campbell, Moorrees). Some years ago, examining some few hundred skulls of children from the famous Bolk collection at the Anatomical Institute in Amsterdam, we made the same observation. (These skulls were found in old Amsterdam cemeteries, about 80 years ago).

What does it mean? Nobody will believe that in the 20th century there suddenly has come a hereditary change in the growth of the jaws of the so-called civilized world. There must be another reason that to-day we find among the orthodontic anomalies a percentage of 60 or more of these Class II cases.

We will have to look for exogenic factors. These can be found when we realize that there has been altered thinking in respect to baby care.

In the old days the babies often were so swaddled that they were unable to move arms or hands. We also know that the children were breast-fed and that "bottle fed" babies did not exist. Furthermore the way these bottles are used and the shape of the nipples can make the "drinking process" quite different from the natural one. And above all we know

that formerly the baby was fed when he started crying and then — contented — he fell asleep again. Today he is fed at fixed times. We let him cry and do not take him out of the crib if not strictly necessary and we wonder that the child looks for some comfort and finds it in sucking his thumb, his fingers, his sheet or whatever he can grasp. We need not be followers of Freud to understand that under such circumstances this is inevitable and we also know from thousands of cases that this fact is chiefly the reason for the deformation of the upper jaw. The tongue in conjunction with mouthbreathing may bring about the abnormal expansion of the lower jaw. So, if there is an anomaly in the deciduous dentition, it generally has nothing to do with growth problems, nor with lack of space, as there is adequate provision for the ten small deciduous elements in each jaw.

Only exogenic factors can be the cause and if this is true, it should be easy to redress the damage at that young age! Clinical experience tells us that this is really the case and that if we can eliminate these factors, the normal situation very often can be restored in a short time with the help of a very simple appliance (Oral Screen).

If it actually can be proved by psychiatrists that it is unwise to stop the child from sucking for psychological reasons, then give him back his pacifier; give that object the right shape; hang it around his neck so that it cannot fall and become filthy. But do not allow him to make a habit of sucking. Otherwise in later years he will need extensive, complicated and expensive treatment to prevent him from becoming an adult with badly functioning teeth, aesthetically handicapped for life! If we could stop these habits, the percentage of orthodontic anomalies would fall off considerably.

All this therefore, is important, as it means that the shape of the jaws would be in a normal position again so that we have done what is the principal task of the orthodontist: to give Nature the chance to do what it intended to, but could not

because of exogenic factors. If we take care that these factors do not reappear, a relapse for the same reason is out of the question! Here is one of the serious mistakes of the old school, which believes that starting treatment before the age of twelve is a waste of time and energy, as we may have to do the work all over again. However, we can state today, that starting at the age of twelve generally means starting too late and is asking for trouble and difficulties, which should be quite avoidable! This has been demonstrated with hundreds of European children. Starting treatment — when necessary — in the deciduous teeth, will restore a normal relationship of the jaws and normal occlusion (apart of course from cases where caries and premature extractions of deciduous teeth may have complicated the situation). As a result at the time of eruption of the permanent teeth all will be in order. Consequently then, practically the only possibilities for anomalies in Class I, are: lack of space (this of course is a question of endogenic factors), and the hereditary malrelation in the sizes of teeth and jaws.

There is also one other possibility: the hereditary Class III, which is a matter of jaw growth. This may be either abnormal growth of the mandible, or lack of growth of the maxilla and middle face, or both.

Statistics show that an overdevelopment of the lower jaw is only $\pm 0.4\%$. (We found in Amsterdam on 1,000 cases, 4 Class III deviations). Not only in Amsterdam, but in several other orthodontic clinics in Europe, it was found that — if treated early — further abnormal growth could be prevented by the use of a chin cap, even in serious hereditary cases.

If there also is an underdevelopment of the middle face, we have a very different case to treat, which undoubtedly should be sent to the experienced orthodontist. However, the great majority of cases will be Class I, and this will nearly always be visible at the moment of the eruption of the upper incisors.

To sum up, we can say that from the aetiological point of view we have:

1. Anomalies in the deciduous teeth, caused by exogenic factors;
2. Anomalies in the permanent dentition at the time of eruption of the permanent incisors, caused by hereditary malrelation in the size of the jaws and teeth;
3. Mixed anomalies in the permanent dentition, because of the fact that the untreated anomalies in the deciduous dentition, in conjunction with the difference in size of the permanent teeth, may cause a mixed Class I and II.

DIAGNOSIS

In connection with our statements on aetiology, I want to stress, that in discussing diagnosis, it will be clearly understood that we must start with the deciduous dentition. Here we may find anomalies caused by habits, resulting in Class II cases or of an orthodontic Class III (incisors in reversed position). If at the time of the eruption of the permanent incisors, the situation is normal, there can only come into existence Class I anomalies, caused by lack of space.

If these anomalies are not treated immediately, more serious trouble will occur later on, making treatment more difficult and taking much more time. What we mostly see in daily practice are cases which come to us too late. Here we see a combination of Class II, caused by habits, together with Class I, caused by lack of space, or, of orthodontic Class III, complicated by the fact that the reversed position of the incisors of upper and lower jaws was not treated in time.

We also may find the genuine Class III, which is a gnathological process, but which will not occur very often (0.4 per cent). It is known as the "Hapsburg jaw" and is a question of hereditary abnormal growth of the mandible combined in a few cases with an underdevelopment of the middle face.

We will have to keep in mind too, the possibilities of Anodontia of one or more elements and the fact that there may be supernumerary teeth, causing various displacements of permanent teeth.

Statistically we found in Amsterdam the following figures:

Anodontia	Examined 3,000	orthodontic patients (Clinic Amsterdam, Dr. Koenen, 1953)
Number of patients missing teeth	108	
Symmetrical	49	
Asymmetrical	59	

Kind of Anodontia:

1+	1	1—	4
+1	—	—1	6
2+	32)	2—	5
+2	33)	—2	6
3+	1)	3—	2)
+3	2)	—3	2)
4+	1	4—	2
+4	1	—4	2
5+	10)	5—	25)
+5	8)	—5	25)
+6	—	—6	—

Anodontia	Examined 1,074	orthodontic patients (private practice Nord, 1957)
Number of patients missing teeth	34	
Symmetrical	14	
Asymmetrical	20	

Kind of Anodontia:

1+	—	1—	1
+1	—	—1	—
2+	7)	2—	—
+2	4)	—2	—
3+	—	3—	1
+3	—	—3	1
4+	1)	4—	—
+4	2)	—4	—
5+	3)	5—	9)
+5	5)	—5	8)
+6	—	—6	1

THERAPY

The dental diagnosis may reveal:

1. Anomalies of the deciduous dentition

In general this will be a Class II, caused by habits (sucking, mouthbreathing, tongue and swallowing habits), which in most cases can be corrected by the use of an Oral Screen.

We also may find, for similar reasons, compression of one or both jaws. These cases can usually be straightened in a few months by using expansion-plates.

It may happen that very young patients are too nervous to be treated, in which case we must wait for the moment when treatment will be possible and meanwhile keep them under observation.

2. Anomalies of the permanent dentition

Accepting the fact that we should see the patient from the moment of the eruption of the permanent teeth, we have to take care that carious lesions are filled in time. Furthermore, we will have to follow the development till at about twelve years, the permanent dentition — save for the wisdom teeth, is complete. This of course does not mean that treatment is necessary all that time, but that we will have to check the eruption and intervene when it becomes necessary.

a. Class I

Lack of space at the time of the eruption of the permanent incisors

Oversized incisors are one of the main causes of Class I. Any dentist can make this observation by the extraction of the deciduous teeth (laterals). In a few weeks' time, the tongue and lip will re-align the mandibular incisors to their normal positions. (In the maxilla he may have to use an appliance).

At the time of the eruption of the permanent laterals in most cases, the same thing will happen again and he will have to extract the deciduous canines and the same result will be seen. So with very little trouble we will now have the eight front teeth in their normal position. The problem that will remain is whether there will be sufficient room for the canines and the bicuspid.

In orthodontic literature we are frequently warned against the extraction of the deciduous canines lest this will result in a "shifting" of the remaining elements mesially, thereby increasing the problem. I can only state that we have used this method in hundreds of cases and we have never seen this happen. On the other hand—as mentioned before—we should never assume that with these extractions the problem is solved. The patient must still be

kept under observation. Doing this, we will have to decide during the period of eruption, whether canines and bicuspid can erupt into their normal positions. Very often they will not. Then we will have to decide whether we can obtain sufficient space by expansion or whether we will have to extract permanent elements — generally the first bicuspid.

We may find that extractions are necessary only in the upper jaw. The four bicuspid will not always have to be sacrificed.

In the last decade this question of extraction has been one of the most controversial topics in orthodontics. I do not believe it is as difficult as is often pointed out.

As to the possibility of expansion, it should be recognized that the space obtained in this way is very small and that therefore expansion is only logical where the molar region is compressed and the necessary space required is only very little. In all other cases we will get over-expansion and that means relapse and failure later on. The percentage of these failures a quarter of a century ago was so great that at the International Dental Congress in London in 1931, the question was discussed whether the Orthodontists had the moral right to go on with this

kind of treatment!

Obtaining space by trying to move the first molars distally, when these molars are standing in their normal places is a mistake, since there may be a relapse the moment the second and third molars erupt. Orthodontic textbooks and journals today tell us that by using Cephalometric Radiographs and by making graphs and drawings, we can observe growth and decide our course of treatment.

Personally I do not believe that even experts can tell this with any amount of certainty and further, I am of the opinion that it is unnecessary. The fact is that after measuring numerous models in the course of years, we found that after the eruption of the first molars there is no growth of the front part of the jaws! In other words, if we measure the distance from the distal point of the lateral incisor to the mesial point of the first molar, we will find that it is the same whether the child is six or twelve years old. Every dentist who has in his possession various models of the same child during the time of eruption, can easily see for himself that this is correct. This is very important, as it means that by taking ordinary radiographs of that part of the jaw, we can not only determine the size of these three elements, but also their positions. There-



FIGURE 1

Boy born March 1943—Upper jaw at February 1953—C+D+E.



FIGURE 2

Upper jaw at February 1957 — 3+4+5. Distance remained the same.

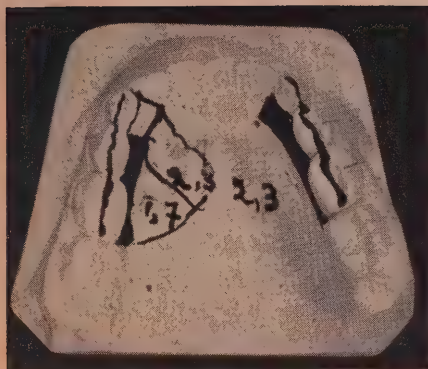


FIGURE 3

Girl born September 1946 — Lower jaw at April 1954 — C+D+E.

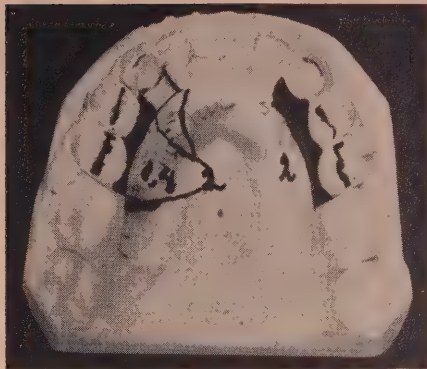


FIGURE 4

Lower jaw at June 1957 — 3+4+5. Distance is smaller on account of the fact that D+E were bigger than 4+5.

fore, in most cases we can decide whether extraction is needed and which element should be chosen. (Figs. 1 and 2, 3 and 4).

b. Class II

Protrusion of the upper jaw, retrusion of the lower or both

Here we must distinguish between the ordinary Class II, caused by habits and the mixed one, caused by habits and lack of space. If it is a question of exogenic factors (habits), we may have to make the necessary expansion, move back the upper front teeth, and bring the lower jaw forward.

If there are also endogenic factors (size of teeth, supernumerary teeth, anodontia), there is a combination of Class I and Class II, and we will have to decide whether along with expansion, extraction is indicated. When diagnosing a Class II division 2, we should nearly always start by bringing the upper front teeth forward in order to give Nature a chance to bring the lower jaw into its normal physiological position. We can combine the movement of the upper front with the forward movement of the mandible (inclined plane) and in most cases we will then see a very rapid improvement.

c. Class III

If we observe a Class III position of the lower front teeth, we must be very careful to differentiate between the case where this is a consequence of habits and that which started during the eruption, because of abnormal growth of the lower jaw. In the latter case it is a gnathological cause and we will have to treat it accordingly (if necessary by interference of the surgeon.)

The growth centre of the mandible, as we know, lies in the condyle. We must hope when starting treatment early enough, to influence this growth by pressure. Clinical experience has taught us that this can be done by letting the patient wear a chip cap during the night. We usually cement an acrylic inclined plane on the lower front teeth as well, to make sure of an easy distal movement of the mandible.

In the first case (habits) this cemented cap is usually sufficient to bring the upper front teeth into their normal position within a few weeks' time. In fact there is generally very little trouble in handling Class III cases, if we only start treatment early enough.

The difficulties arise when there is not only a question of the tendency of an

abnormal lower jaw, but also an under-development of the middle face. This is not easy to improve. What we can do is expand the upper jaw as much as possible without getting over-expansion and then try to make the best of the situation. These cases should — if possible — be treated by a specialist.

This last case is not the only one in which the orthodontist will have to ask himself whether he will be able to solve the problem in such a way that he will obtain a hundred per cent solution. After all my years of practice, it is my conviction that too often the orthodontist is still a victim of the old Angle-axiom, that orthodontic treatment — if done well — should give perfect results. This — unhappily — is not true and the practitioner should be aware of it.

In a number of cases extraction will be necessary. The best advice the writer knows for this surgical interference is:

"There are cases in which extraction is necessary. Apart from those rare instances of supernumeration of malposed teeth, or where extraction may be necessary to harmonize conditions in the arches resulting from previous losses or failure in development of teeth, which conditions, cannot be discussed according to any general rules, but must be determined also by the judgment of the operator after a most thorough consideration of all the peculiarities, the author can conceive but two reasons for extraction in this class.

"First, when the jaws are so small, either naturally or because of arrested development, that the angles of inclination would be too great if all the teeth were placed in line. Secondly, where extraction is necessary from the requirements of the facial lines, for the development of the arches may be such as to afford an abundance of room for the malposed teeth, and yet the placing of them in the line of occlusion may result in marked dental prominence and the facial result be more unpleasant than if the teeth had been allowed to remain in malposition."

The above statement was not made by me but by Edward H. Angle in 1900 in

the Sixth Edition of his "Treatment of Malocclusion of the Teeth".

Apart from cases where extraction will be the only solution, logically there will arise in some cases the doubt whether the extraction of a sound permanent tooth is absolutely necessary. There always will be a percentage of cases where I will not extract, but in preference will allow a premolar or canine to stay in a position which is by no means the ideal one. This may then still give the patient a good occlusion — perhaps with the help of a little grinding — and the aesthetic result will be satisfactory.

MUSCLES

In current orthodontic literature as well as in national and international orthodontic meetings, there have been frequent discussions about the influences of the muscles. Without a doubt, it is time that the practitioner began to realize that here is a factor which in former days has been very much neglected. However, I am afraid that in quite a number of these publications the stress has been laid, quite unnecessarily, upon factors which are either of little influence or are so complicated that they are of very little use in daily practice, as is the case with Cephalometric Radiographs.

In the old days, the orthodontist was told that if he aligned the 28 teeth of the child into the correct position and kept them there for some time (retention), the problem was solved. To his great dismay, he very often discovered that, notwithstanding years of retention, he still observed a severe relapse after removing the retaining appliance. Then came, as reaction the solution that in these cases premolars should have been extracted. This often was true, as there were many cases of over-expansion. But even with extractions, the orthodontist would see to his dismay, that now and then the same thing recurred, though not as often. Here the muscle action appears on the scene!

For many years I have given as my opinion that if the patient were treated young enough — that is during the years of eruption — retention as a rule, should be unnecessary. Relapse would be the proof that the treatment had been wrong. I still believe this, with the exception of Class II division 1 malocclusions, which, at least in my country, are found in a very great percentage of cases. This is also true of the severe Class III cases, where in order to prevent further abnormal growth of the mandible, a chin cap is worn at night until the overbite is sufficient to make a further forward movement of the lower jaw improbable.

Class II division 1 occurs when through exogenic factors, the upper anterior quadrant is pushed forward and the lower jaw backward.

When starting treatment we will always find that the lower lip is sucked into the opening. This is typical of this anomaly. This is not a question of habit, but is quite inevitable, since the very soft lip tissue must stay somewhere and will easily find its place between the lower and upper teeth. Looking carefully, we will see the impression of the teeth more or less clearly in that part of the lower lip. We may further find not only the mandible, but also the lower front teeth in an abnormal position (tilted backwards). If we then ask the patient to swallow, we will observe that there is a tongue-lip swallowing habit, and since in these cases the tongue will be big, this very strong muscle will force the lower teeth backwards.

In some publications we read that this swallowing habit and numerous other movements of the facial muscles, are the primary causes of this malocclusion. That this cannot be true is proved by the fact that the moment we are able to stop these habits, the treatment becomes easy and successful. (Double oral screen and lower plate with labial wire). If the cause had been hereditary, this would not have been possible and there certainly would be relapses.

However, we may still get relapses in these cases, if the patient, after treat-

ment, again starts sucking the lower lip. Since this has been the position of this muscle in the mouth for years, it may easily take place when the child is not warned very emphatically against this habit! Moreover, in practically all these cases, the child from birth had his lip in this position, so that the lips very seldom or never closed in a natural manner. This not only made the lower lip thick and ugly, but also caused an underdevelopment of the upper lip. To my mind this inefficiency of the lips is for the orthodontist the most difficult of all his treatment. Unluckily, up till now, nobody has invented an appliance which will definitely cure this defective function of the Orbicularis Oris.

The result is that we must have the full co-operation of the patient and at a young age this is not always easy. The moment we are sure of this, the result will be excellent. This obviously is easier to obtain with somewhat older children, especially with girls.

Fig. 5 is the face of a child with the typical appearance of the underdeveloped upper lip.

Fig. 6 is another child, who looks like its twin, but the two are quite unrelated and every orthodontist can produce similar faces.

Fig. 7 is a girl who had been treated in Switzerland and although the result was not at all unsatisfactory, she still had the typical upper lip. I told her to bite the upper lip and to make a habit of doing so. The result is shown in Fig. 8.

In the course of years I have tried several appliances, placed outwardly on the lips, fastened with headgear or with elastics behind the ears. Because the pressure produced on the lips is not sufficient, the result is usually unsatisfactory. We must have the help and co-operation of the child. Therefore at the very first visit when at least one of the parents accompanies the child, we stress this point as strongly as possible, and explain that without this co-operation, the treatment will last much longer and the aesthetic result will be only moderate.



FIGURE 5



FIGURE 6



FIGURE 7

Girl born December, 1940—Lips in 1954.



FIGURE 8

1957 after lip exercises.

APPLIANCES

The success of our therapy will be the result of the methods and especially of the appliances used. We should, however, never forget, that what works well in the hands of one, may not do so in those of another. It is of no importance which appliance is used as long as the results will be good in each case, obtained by simple methods, in the shortest possible time and without doing any harm to the teeth. In other words:

1. It should be easy to use these appli-

ances at any age and especially during the period of the eruption of the permanent teeth;

2. They should be as simple and as inexpensive as possible, so that they can be used by every interested general practitioner;
3. They should not harm the teeth or the surrounding tissue.

For these reasons it is my opinion that as a rule fixed appliances are outmoded and must be considered things of the past.

They force the dentist to wait much longer in starting treatment as he cannot use his appliances before the shedding is complete and premolars are well erupted. At that age he cannot but consider his problem as a technical instead of a biological one, and is asking for trouble and failure.

The fixed appliance is not only costly, difficult to make and insert, but also necessitates the banding and cementing of most of the teeth, thus increasing the danger of causing caries. Furthermore it should only be used by very carefully trained experts. That as well as all these disadvantages, the results are far from safe is proved by the fact that the supporters of these fixed appliances are engaged in disagreements about the question of which type of appliance is really effective. In nearly every issue of orthodontic journals we can find papers advocating new inventions and improvements.

In Continental Europe these facts were recognized several decades ago. In most of its orthodontic centres one will find today that removable appliances are being used and that treatment is started at the earliest possible age.

In view of the length of this paper, it is of course impossible to describe them; Duyzings a few years ago published a book with reproductions of various types of appliances and with captions in four languages, showing the various possibilities of the appliances. When removable appliances are under discussion, there are two principles involved. The first one makes use of the so-called active plates with screws or wires for expansion. These can move teeth (as a group or individually) and are fixed with clasps or wires to some of the teeth. The second group are supporters of the so-called activator — a removable plate. This is not fixed with clasps to the teeth but is worn at night, lying loose in the mouth so that it will work when the patient's mouth is closed. They claim that the activator works more biologically.

Without any doubt one can obtain ex-

cellent results with both methods. Personally I prefer the active plates, as they are simpler, easier to make and understand. Therefore they are without danger in the hands of the less skilled and experienced practitioner.

ORTHODONTIC EDUCATION

It will be clear that if we want to make orthodontic help available to the children who need it, we cannot go on, as is done in many universities and dental schools, considering Dento-Facial Orthopaedia as an extremely difficult specialty which should only be exercised by well-trained specialists. Sufficient time must be set apart for Orthodontics in the curriculum. We should acknowledge the fact that a dentist who gives orthodontic help, will only become an expert after years of experience.

It may be many months before the results of the prolonged treatment of complex orthodontic cases are known to the dentists. Such cases are often beyond the scope of the average general practitioner. However, if the undergraduate training has at least been comparable to that given in the operative and prosthetic courses, he will possess a feeling of confident interest and responsibility towards the average and simple orthodontic cases. Treatment problems are best solved by seeking the advice of a specialist.

CONCLUSION

It is a foregone conclusion that it is impossible to cover in one paper the whole field of difficulties arising when discussing the problem of Social Orthodontics.

But we cannot go on shutting our eyes to the fact that today in civilized countries there are thousands of children in need of a kind of help to which they have a moral right.

Pondering over the conditions in a country like Canada, an enormous land with a relatively small population, it is evident that orthodontic specialists alone most certainly will not be able to solve the

problem. It will need the will power and the strength of the organized national dental profession as a whole, to improve the situation.

Dental education and training should be such that the student is taught that his responsibility as a dentist entails a responsibility to look at orthodontics as well as e.g. prosthetic cases. There will always be men who will like this part of their work better than their neighbours and they will easily get the patients the others do not care for.

Specialists should be available at not too far distances to be asked for advice and in the large communities orthodontic clinics should be established, not only to give the necessary orthodontic help to the poorer classes, but also to be used as centres for post graduate courses for the general practitioner.

If these important problems of Social Orthodontics would be shouldered by the dental profession as a whole, I feel sure that with the help of the authorities who cannot remain blind to the seriousness of the present deplorable situation, the extent of orthodontic assistance could rapidly be very much improved.

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9 Johannes Vermeerplein.

Lost Thoughts and Theories — The world little knows how many of the thoughts and theories which have passed through the mind of a scientific investigator have been crushed in silence and secrecy by his own severe criticism and adverse examinations.

Michael Faraday, Chemical History of a Candle.

Are You Sure it is a Cyst?

JOHN A. FOLKINS, D.D.S., L.D.S., * Vancouver, British Columbia.

Article No. 4

When there is an enlargement of the contiguous hard and soft tissues of the mouth with an associated area of radiolucency in the jaw structure the dentist should always consider the possibility of a cyst. This does not imply, however, that all such enlargements are cysts. Tumours of any type whether they be malignant or benign may simulate cysts in both their clinical and radiographic features. Carcinomas, sarcomas, recurrent adamantinomas, ossifying fibromas, can all simulate cysts as this article will demonstrate.

A true cyst may be defined as any sac, normal or otherwise, especially one which contains a liquid or semi-solid. With this definition in mind we can safely state that the majority of cystic-appearing lesions found in the jaws are true cysts and these will most frequently be in the radicular or dentigerous categories, in that order.

True cysts are, according to Robinson's classification, developmental, neoplastic, or retention in category. If developmental, they may be odontogenic, such as a dentigerous cyst (Fig. 1 Case Report #1); or non-dental, such as those found in the fissures of the maxilla, i.e. nasopalatine, globulomaxillary. Pathologically these two types of developmental cysts can present somewhat the same picture. If neoplastic, the cyst could be an adamantinoma, and here the pathological picture changes

markedly (Fig. 11, Case Report #4). If retention, it could be a mucous cyst and here again there can be a different pathological picture, with an epithelial lining of salivary gland origin rather than the squamous epithelium which is usually found in odontogenic developmental cysts.

Identical clinical symptoms may be presented by cysts and several other lesions of the jaws. Expansion of the bone and soft tissues from their normal contours with or without associated tenderness and inflammation, or the unexplained looseness or displacement of one or more teeth are symptoms which could apply to a number of lesions. Clinical examination may reveal a soft freely palpable mass or the mass may not be palpable at all. There may or may not be symptoms of crepitus.

The clinical history may reveal that the patient has, for some time, been aware of the enlargement and its gradual increase in size. On the other hand, he may have suddenly discovered the enlargement when examining his own mouth, or he may have been totally unaware of it until its discovery during a dental examination. Thus we see that the clinical examination and history do not provide too much of a clue as to diagnosis.

The next step is a radiographic examination, and a large radiolucent area is revealed in the jaw structure. On cursory glance we may be tempted to make the snap judgment of a "cyst." But is it? Radiographically there are several lesions which can simulate cysts and therefore X-rays cannot tell the whole story. Taken

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alone they can be misleading although, on close study, they can show small but definite points of difference from true odontogenic cysts which will help us to suspect certain types of lesions. (Compare Fig. 8 Case Report #3 with Fig. 14, Case Report #5). Although giving clues, it must always be remembered that X-rays are an aid to diagnosis but in themselves do not provide sufficient evidence for a definite decision. It will now be understood how important a biopsy must be. In every case of this type it is only on the basis of pathological evidence that a definite diagnosis can be made.

As dentists we must be constantly alive to the fact that all cystic-appearing lesions must be properly diagnosed because the treatment will vary according to the diagnosis. It is of course assumed, that any dentist maintaining a good standard of

oral care, will arrange for a biopsy in each and every case of an abnormal mouth enlargement that is not an obvious dental granuloma. The facilities are available to us at all times, and at the expense of repetition, it must be emphasized that the only positive diagnosis is through pathological examination. The word "positive" is used advisedly, because on rare occasions even the pathologist can have a difficult time in determining the presence or absence of a malignancy in a questionable lesion.

The case histories to follow all had similar histories, similar clinical symptoms and, at casual glance, reasonably similar radiographic findings. It was the pathological findings that were dramatically different, and the surgical treatment and postoperative care had to vary according to the diagnosis.

CASE REPORT #1.

A 35-year-old man was referred for a positive diagnosis and the removal of a suspected cyst. Clinical examination showed a slight enlargement on the buccal surface of the right mandibular alveolar ridge, molar area. There was no change in contour of the lingual surface. One bicuspid was missing and the other was markedly out of occlusion. Radiographic examination revealed a large radiolucent area with the missing bicuspid enclosed within the lesion. (Fig. 1). There are several clues as to diagnosis, the most important of which is that the lesion has a smooth definite line of demarcation which in itself suggests a cystic formation. The lesion appears to extend through the softer cancellous bone and from its size we can conclude that the cortical plate on the buccal surface was involved only in the later stages, and since the lingual plate had not expanded we can conclude that the lesion was enlarging through the medium of pressure from

within the lesion. These clues together with the fact that one tooth was inclined distally and that there was another enclosed within the body of the lesion would lead us to suspect a dentigerous cyst. Pathological diagnosis: dentigerous cyst.

It is interesting to note that during enucleation of the lesion, careful curettage did not reveal the root apices of the anterior teeth as being involved within the cystic lining, even though the lesion extended around to the left lateral tooth, and all root apices appeared to be involved judging from the radiographic evidence. (Fig. 2). Such was not the case, with the result that only one tooth was removed — the first bicuspid. (Fig. 3).

The micro-photograph shows the typical pathological picture of the lining of a simple dental cyst — a lining of squamous epithelium. The round cell infiltration of the sub-epithelial fibrous tissue suggests the presence of a low-grade chronic inflammatory condition. (Fig. 4).

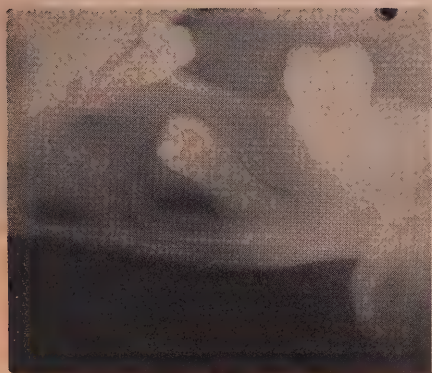


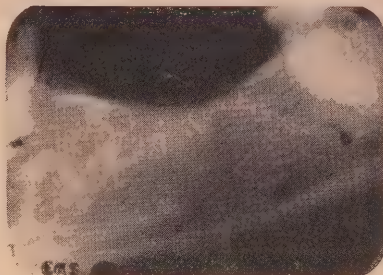
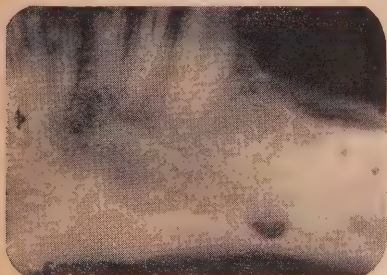
FIGURE 1

Lateral radiograph showing the presence of a large dentigerous cyst in the right mandible.



FIGURE 2

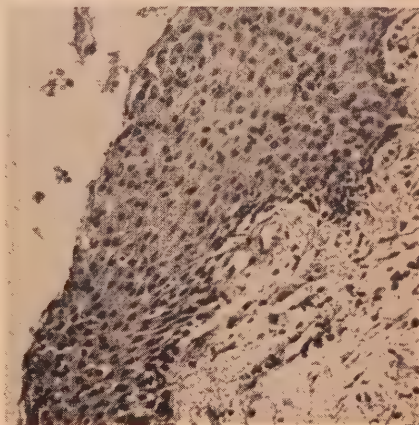
Preoperative x-ray showing mesial extent of the lesion.



FIGURES 3A and B

Postoperative views. One tooth only had to be removed other than the one in the lesion.

FIGURE 4
Micro-photograph showing the lining of the dentigerous cyst. Squamous epithelium with loose edematous chronic inflammatory granulation tissue.



CASE REPORT #2.

A 50-year-old man was referred for the diagnosis and removal of a suspected cyst. The clinical symptoms were similar to those in Case Report #1, and the radiographic picture is noted in Fig. 5. The same clues apply as in Fig. 1 except that there is no tooth involved, and the lesion in this instance has a multiloculated appearance. The definite smooth line of demarcation is the important clue and here again we can suspect a cyst, and with no tooth involved we can suspect a residual radicular cyst. Pathological diag-

nosis: radicular cyst. (Fig. 6). This type of cyst usually originates from a dental granuloma at a tooth root apex. It is called residual because the tooth was removed without bothering to curette the granuloma and the cyst continued to develop. From the size of the lesion in Fig. 5, the cyst has been growing for a long time. Large radicular and dentigerous cysts have the same pathological picture. (Figs. 4 & 6). They may or may not have an inflammatory reaction present in the cystic wall.

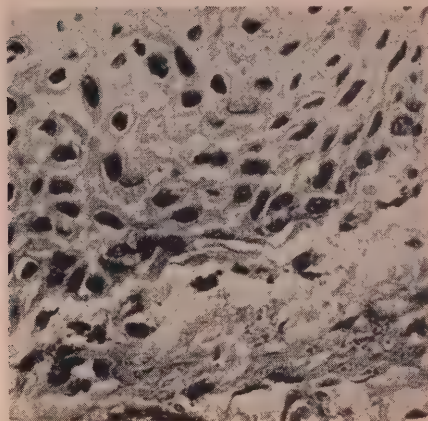


FIGURE 5

Radiograph of unusually large suspected radicular cyst. Note the multiloculated appearance and the fact that the softer cancellous bone was involved long before the harder cortical plate. This is an important clue, particularly in large lesions.

FIGURE 6

High power microphotograph showing normal squamous epithelium overlying the fibrous stroma which represents the cystic wall. Note similarity to Figure 4.



CASE REPORT #3.

A 16-year-old girl was referred for the diagnosis and treatment of an enlargement of the mandible. The parents had been aware of this gradually expanding lesion for about three years, but living 50 miles from the nearest dentist they had neglected to have it attended to until the lesion had expanded so far as to disfigure the face.

Clinically it appeared to simulate any large cyst with the one difference in that it appeared to expand the buccal and lingual cortical plates to the same degree as it expanded mesially and distally. Large dental cysts expand through pressure and involve the softer cancellous bone more easily than the harder cortical plate with the result that they are usually oval in form. This lesion was almost circular.

Radiographic findings revealed a large radiolucent area in the anterior mandible, with what appeared to be a definite limiting border. At the base of the lesion was the bicuspid tooth which was found missing during the clinical examination. (Fig. 7). In this lateral oblique view the



FIGURE 7

Radiograph, lateral view showing tumor with tooth lying at the base of the lesion. Note similarity to Figure 1.



FIGURE 8

Occlusal view showing bucco-lingual expansion of cortical bone.

lesion appeared to expand lingually, but not buccally and clinical examination revealed the buccal surface to be definitely involved. An occlusal film was taken (Fig. 8) and here the film showed the lesion to be expanding both lingually and buccally. Note that the cortex is thin but not eroded. Note also that there are coarse bony trabeculations dividing the lesion into multiple compartments. There are two differences from a dental cyst: the equal expansion both antero-posteriorly and mesio-distally, and the multiple bony trabeculations throughout the lesion. In the words of the radiologist "the tumor is sharply demarcated but not as much as one would expect in a simple dental cyst. The tumor is most probably an adamantinoma but differential diagnosis would have to include a variant of a dental cyst."

Under general anaesthesia the lesion was exposed. It appeared to be spongy in nature. The lesion was incised, the con-

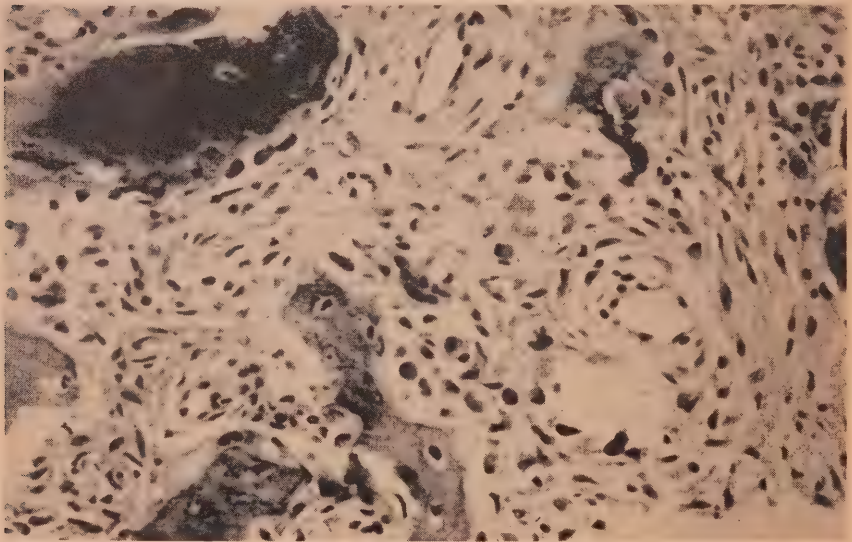


FIGURE 9

Note loose fibrous connective tissue stroma with osteoid trabeculae.

tents aspirated after which the remnants of the lesion were carefully excised, and forwarded to the pathologist. The operation was performed with a general surgeon in case of pathological fracture in which case a bone graft from the crest of the ilium would be attempted. This was found to be unnecessary and the mandible was immobilized to the maxilla by intermaxillary wiring. Pathological diagnosis: ossifying fibroma. (Fig. 9). After one month the wires were removed and a cast silver splint was inserted. (Fig. 10).

Instead of squamous epithelium lining a connective tissue sac as would be the case with a dental cyst, we have osteoid trabeculae within the wall of the lesion. Returning to X-rays, note similarity in appearance between Figs. 1 & 7.

CASE REPORT #4.

A 32-year-old woman was referred for the removal of a suspected cyst. A few days previously her family dentist had removed the mandibular first molar, and aware of how easily it had been removed, decided to X-ray the area.

Clinical examination revealed a slight enlargement of the left mandible on the buccal surface in the second bicuspid — first molar area. There was also an expansion of the bone lingually but not as marked as on the buccal surface. Closer to the alveolar crest on the buccal surface the swelling was soft and spongy. No pain was experienced on pressure nor was any crepitus noted.

Radiographs of the area suggested a radicular cyst, but due to the slight expansion of the lingual bone the opinion of a radiologist was requested. His report: "The appearance suggests a simple or periapical cyst. The lack of trabeculae would be against the diagnosis of giant cell tumor or adamantinoma". (Fig. 11).

Under general anaesthesia the lesion

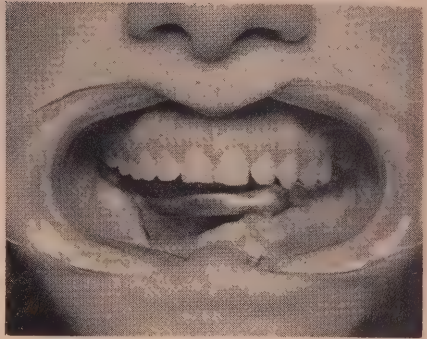


FIGURE 10

Photograph showing the cast silver splint cemented into place. Splint was intentionally cast out of occlusion with maxillary incisors so that it could not be used in biting.

was exposed by careful dissection of the buccal mucosa where it was found that the lesion had invaded the periosteum but not the buccal mucosa. The lesion was excised by including the periosteum and then curetted from the mandible. The lesion was then forwarded for pathologi-

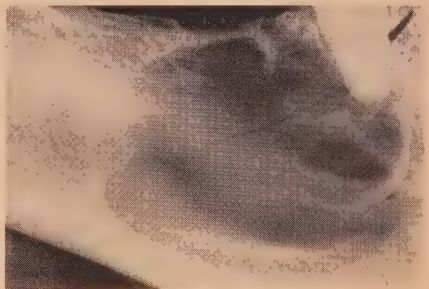


FIGURE 11

Preoperative radiograph showing extent of the lesion. Note the multiloculated appearance. Very few coarse trabeculae are seen.



FIGURE 12

High power micro-photograph. Note the typical palisading of the ameloblasts and loose stellate cells in a myxomatous stroma.

cal examination. (Fig. 12). Diagnosis: Cystic Ameloblastoma (Adamantinoma).

It is interesting to note that the radiologist had thought of an adamantinoma but had decided against that diagnosis, and also decided against a giant cell tumor, due to the lack of trabeculae in the X-ray of the lesion. This is an excellent example of how an X-ray is considered an "aid" and not a proof in definite diagnosis.

Fig. 13 shows the lesion six months postoperatively with healing almost complete. Yet a year later this patient was again hospitalized and the lesion again removed by more radical excision. Radiographs at this time had shown a definite recurrence. X-rays were taken of this

area periodically and after two years there have been no signs of recurrence.

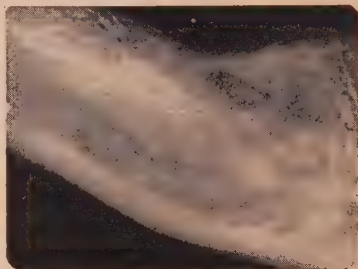


FIGURE 13

Radiograph 6 months postoperative showing new bone formation almost complete. One year later there was a recurrence in this same area.

CASE REPORT #5.

A 67-year-old woman was referred for diagnosis and treatment of a large painless swelling of the left maxilla. The patient had been aware of a gradually expanding swelling in her left maxilla and after several attempts to reduce her denture with a nail file in order to accommodate the swelling, she realized that her denture could not now be properly inserted and decided to visit her dentist.

The swelling was palpable and painless, and there was no ulceration of the outer epithelium.

Radiographic examination was made using occlusal films and a large radiolucent area was noted in the left maxilla. (Fig. 14). One notable difference between this film and any of the others is that there is no definite line of demarcation in the lesion. Numerous bony trabeculae are seen to be projecting into the lesion and

this suggests a positive involvement of the bone itself. The lesion is infiltrating and not expanding by pressure as is the case with a cyst. This clue in itself is sufficient to suggest that the first surgical procedure is a biopsy only in order to get a positive diagnosis before proceeding any further. Diagnosis: Squamous cell carcinoma. (Fig. 15). Here again we have

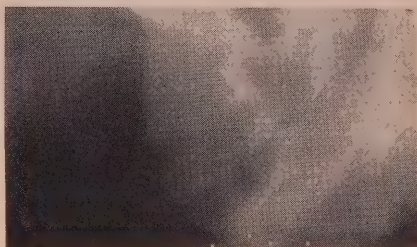


FIGURE 14

Occlusal radiograph showing large radiolucent area in left maxilla. Note the lack of a definite line of demarcation and numerous bone filaments projecting into the body of the lesion.

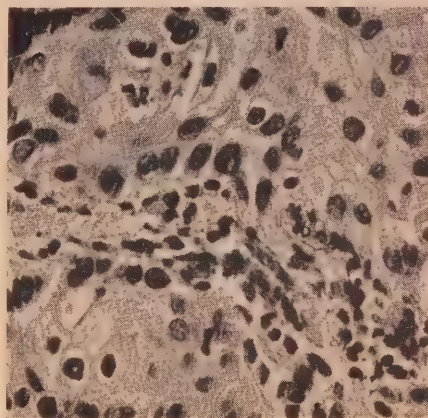
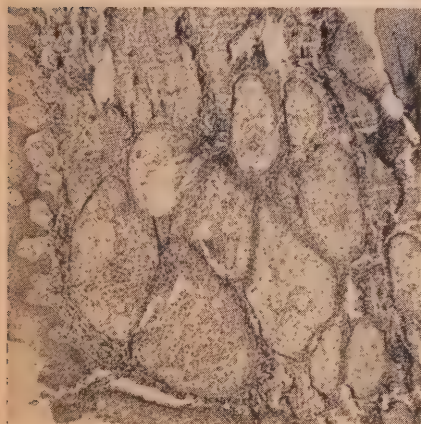
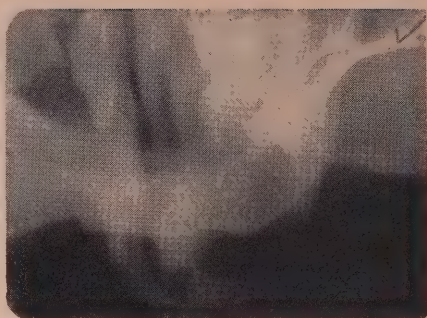


FIGURE 15

Low power micro-photograph shows the infiltrating squamous cell carcinoma. The high power micro-photograph shows the pleomorphism, polymorphism and hyperchromatism of the cells with hyperchromatic and irregular nuclei.

FIGURE 16

Radiograph 3 months postoperative. The left half of the maxilla is missing except a small area in the region of the left tuberosity. The lips are unusually distinct in this view.



a radiolucent area and a cursory glance may note the differentiating factors.

A hemimaxillectomy was performed the following week and here co-operation with a Rhino-oto-laryngologist was indicated. He took the major responsibility since the field of treatment extended far

beyond the field of the oral surgeon. A radical excision was performed involving the left half of the maxilla, the left maxillary sinus, the left lateral nasal wall and all tissues up to the floor of the orbit. (Fig. 16). Three months later an obturator was inserted and after two years there have been no signs of recurrence.

CASE REPORT #6.

A 40-year-old man was referred for diagnosis and treatment of a large swelling of the left mandible. Examination of the mouth revealed a hard swelling in the left mucobuccal fold extending from the left cuspid to the left first molar. There was a definite distension of the outer contours of the jaw in that region. The lesion was firm and painless.

The history revealed that the patient became aware of the swelling, and visited his family dentist who, after noting that the removal of a diseased tooth in the area did not affect the swelling, referred him for further diagnosis.

Radiographic examination revealed a radiolucent area in the left mandible and here again a definite line of demarcation was missing. The patient was referred for larger X-rays and the report stated: "The findings consist mainly of generalized bony sclerosis but there are, however, a



FIGURE 17

Lateral oblique radiograph showing the area of radiolucency in the left mandible. Again there is no line of demarcation to the border of the lesion.

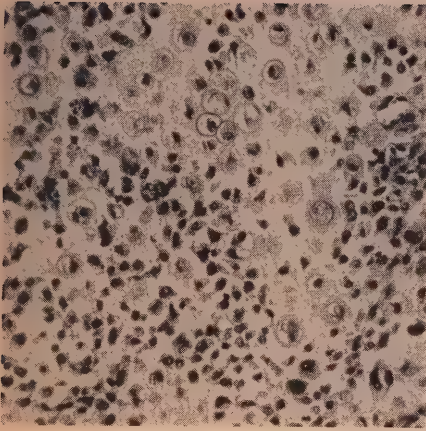


FIGURE 18

Note the large pale cartilage cells, some of them binucleate, others with small hyperchromatic nuclei. The stromal cells show a marked variety in size and shape and occasional mitotic figures are seen.

few small cystic areas within the sclerosis. The findings could well be due to an ossifying fibroma or fibrous dysplasia of the involved bone". (Fig. 17).

Once again the clinical and radiographic findings suggest a biopsy only as the first

stage of treatment. Diagnosis: Chondrosarcoma. (Fig. 18).

A general surgeon headed the treatment team and a hemimandiblectomy was performed. (Fig. 19). After three years there has been no sign of recurrence.

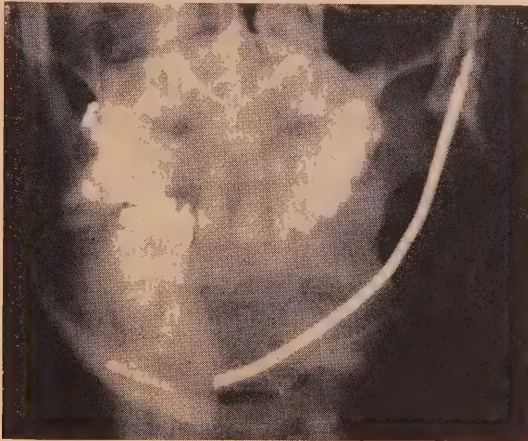


FIGURE 19

Postoperative x-ray showing the left half of the mandible missing from the midline to the ascending ramus. Note the broken Steinman pin.

SUMMARY

Six case reports have been presented in all of which the clinical symptoms were comparatively similar, and did not therefore contribute to the diagnosis. Radiographic examination revealed six somewhat oval areas of radiolucency in the bones of the jaw — two of which had the crown of a tooth involved in the lesion, two had root apices involved, and in two no teeth were involved. Although at a cursory glance a dental film may suggest a dental cyst of some type, a careful examination can, in many instances, give clues which should cause one to suspect something other than a cyst. It is important to note, however, that although a radiographic examination will assist us to eliminate some possibilities, a definite diagnosis cannot be made on the basis of radiographs alone. A definite diagnosis can be arrived at only after the pathologist has had an opportunity to examine the involved tissue.

"Are you sure it is a cyst?" is a question deserving earnest consideration when it is realized that the case reports in this article represent only a partial list of the lesions of the jaws which, both clinically and radiographically, can simulate cysts. Although the majority of cystic-appearing lesions of the jaws will prove to be odontogenic or developmental cysts, nevertheless we cannot fall into the careless habit of assuming that they are never anything else.

As dentists we have a responsibility to arrange for an immediate and proper diagnosis so that lesions may receive their proper treatment. It is fundamental that any condition caught in its early stages is more easily corrected. Carelessness or delay may permit serious lesions to progress to the point where any treatment must be palliative, or where radical surgery must be undertaken, with its inevitable sequella of disfiguration.

925 West Georgia St.

It is not too early . . .

to begin to plan for the summer months. What meetings to attend and what holidays to take.

We suggest that this year you combine the two as the Canadian Dental Association National Convention is to take place in Halifax, N.S., in June.

What a wonderful opportunity to visit historic old Halifax, which has changed so remarkably since the war years, to drive through the beautiful Annapolis Valley, or over the picturesque shore highways bordering the Atlantic Ocean, and to visit Cape Breton Island with its incomparable Cabot Trail.

Your Convention committee is arranging a most informative and pleasant four day programme, with the Nova Scotian Hotel as convention headquarters.

A holiday is more rewarding if some useful purpose can be served at the same time and we believe we will be able to present the perfect combination.

Further information will reach you, at regular intervals, via the "Journal" and the mail.

ABSTRACTS

Histologic Effects of Silver Nitrate on Human Dentine and Pulp

HAROLD R. ENGLANDER

It is interesting and clinically significant to note that more pulpal damage is caused by the application of silver nitrate to sound dentine than to carious exposures. Sound dentine apparently does not precipitate as much of the silver ion as does the blood, and so permits the silver nitrate to penetrate more deeply and thus to irritate the pulp more severely.

Ammoniacal silver nitrate has been widely used by dentists since Percy Howe advocated the sterilization of infected dentine in deep caries lesions rather than mechanical removal by bur or spoon with possible exposure and injury to the pulp. Although many other drugs (thymol, phenol, creosol, creosote, benzalkonium chloride and so forth) have also been used with the hope of sterilizing infected dentine, silver nitrate remains one of the most frequently used medicaments for cavity sterilization.

Twenty-six carious human teeth with and without pulpal exposures were subjected to a standardized series of applications with silver nitrate, ammoniacal and plain. Histologic examination revealed the following:

Ammoniacal nitrate was not self-limiting. It penetrated through sound tubular dentine both primary and secondary, as

well as through carious dentine. Silver nitrate stained the sound and carious dentine differentially. Carious dentine stained a deep brown. The degenerating tubules under the carious region did not stain at all. The contents of the deeper, vital dentinal tubules precipitated the silver ions as black particles of free silver. Damage to the pulp occurred under sound dentine which was subjected to silver nitrate applications. The black particles of silver eventually reached the pulp.

There was a strong tendency by the pulp to localize the injury caused by the silver nitrate. There was considerably less damage under silver nitrate applied directly to exposed pulp than when the solution was applied to sound dentine. This was probably because the blood of the underlying hemorrhagic region completely precipitated the silver nitrate, limiting its action and preventing its further penetration.

In view of the limited sterilizing action by silver nitrate and its potentially injurious action to the contents of vital dentinal tubules and the odontoblasts as well as the pulp itself, the value of its continued use on an empirical basis is questioned.

The Journal of the American Dental Association
Vol. 57 — November 1958 — No. 5.

The Nature and Behaviour of Denture Cleaners.

DAVID H. ANTHONY, D.M.D. and PAUL GIBBONS, B.S., D.D.S., M.S.

The increase in the number of dentures in service has stimulated interest in controlling the deposits and stains which normally collect on them. Fortunately, the modern denture has a smoother surface texture and is less permeable than vulcanite and, as a result, is somewhat easier to keep clean. However, the use of teeth with more natural contours and the trend toward stippled surfaces tend to provide more recessed areas for the accumulation of stains and debris and, consequently, increase the patients' cleaning problems.

This study of denture cleaners was undertaken in an attempt to evaluate the popular cleaning methods and to develop, if possible, a simple means of cleaning dentures with materials readily available to the patient.

Denture patients apparently use a number of cleaning materials in addition to the commercial cleansers currently available. In order to study these materials, a questionnaire was prepared and sent to a number of patients of the denture department of the University of Michigan School of Dentistry. The questionnaire requested information regarding the type of cleanser employed, the method and frequency of use, the degree of satisfaction, and suggestions for improvements. The tabulation of the 120 replies was complicated by the wide variety of cleansers reported, as well as combinations of materials and methods.

The denture patients who showed enough interest to return a questionnaire

spend considerable time and effort in attempting to keep their dentures clean. Fewer than one-half of this group use the commercial cleansers. The remainder employ either dentifrices or home cleansers, such as vinegar, Clorox, soda, salt, soap, abrasive cleansers, or Listerine.

More efficient stain removal was the most frequently mentioned suggestion for an improved denture cleanser. Commercial immersion denture cleansers appear to be harmless to denture plastics. Also harmless are the household cleansers, such as Clorox, baking soda, ammonia, vinegar and salt. Substances which contain appreciable quantities of alcohol or essential oils are not indicated as denture cleansers.

On the basis of immersion tests, the commercial immersion denture cleansers seem efficient only in the removal of mucin deposited from the saliva and loosely held food debris, and since the commonly used brushes, abrasive cleansers, commercial denture pastes, and dentifrices all cause scratching of the denture, they cannot be recommended for routine denture care.

A cleaning solution consisting of 1 teaspoon of Clorox, or similar hypochlorite, and 2 teaspoons of Calgon in a half glass of water is an efficient and safe cleanser for an occasional overnight immersion. But this hypochlorite-Calgon cleanser is not indicated for routine use with any prosthetic appliance constructed with base metals.

The Journal of Prosthetic Dentistry
Vol. 8 — Sept.-Oct. 1958 — No. 5.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuation as of Aug. 31, 1958

GOVERNMENT BOND FUND

Cash:	\$ 17.77
<i>Investments:</i>	
236 Units—Gov. Bond Fund at \$94.608 per unit	22,327.49
<i>Interest Accrued to Nov. 30, 1958:</i>	
236 Units—Gov. Bond Fund at \$.37277 per unit	87.97
TOTAL	<u>\$22,433.23</u>
Less: Administration fees— $\frac{1}{8}$ of 1% of \$22,433.23	28.04
TOTAL MARKET VALUATION	<u>\$22,405.19</u>
TOTAL UNITS OUTSTANDING	2,253.482
Unit Value as of Nov. 30, 1958	\$22,405.19
	<u>2,253.482 \$ 9.942</u>

CORPORATE BOND FUND

Cash:	\$ 1.38
	(Dr)
<i>Investments:</i>	
499 Units—Corp. Bond Fund at \$99.555 per unit	49,677.95
<i>Interest Accrued to Nov. 30, 1958:</i>	
499 Units—Corp. Bond Fund at \$.44401 per unit	221.56
TOTAL	<u>\$49,898.13</u>
Less: Administration fees— $\frac{1}{8}$ of 1% of \$49,898.13	62.37
TOTAL MARKET VALUATION	<u>\$49,835.76</u>
TOTAL UNITS OUTSTANDING	4,857.913
Unit Value as of Nov. 30, 1958	\$49,835.76
	<u>4,857.913 \$ 10.258</u>

COMMON STOCK FUND

Cash:	\$ 57.74
	(Dr)
<i>Investments:</i>	
8032 Units Retirement Savings Plan Equity Fund at \$11.0842 per unit	89,582.50
TOTAL	<u>\$89,524.76</u>
Less: Administration fees— $\frac{1}{8}$ of 1% of \$89,524.76	111.90
TOTAL MARKET VALUATION	<u>\$89,412.86</u>
TOTAL UNITS OUTSTANDING	7,548.336
Unit Value as of Nov. 30, 1958	\$89,412.86
	<u>7,548.336 \$ 11.845</u>

Trustee: The Royal Trust Company.

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge Street, Toronto 7, telephone HU. 1-5731.

Improved Phonetics in Denture Construction

LESLIE R. ALLEN, Lt.-Col. (DC), USAF

The three major factors in complete denture construction are mechanics, aesthetics, and phonetics. Considerable progress has been made in improving mechanics and aesthetics, but little has been done to improve phonetics. Neglect of this major factor in denture construction may be attributed to the fact that most edentulous patients tend to return to normal speech after a postinsertion practice period of several days to several weeks. A variety of oral inaccuracies occur during this practice period, but by far the most common, as well as the most difficult to overcome, is the mispronunciation of the S and SH sounds. While faulty speech is tolerated as part of "getting used to" the denture, it causes embarrassment to the patient and adds to his burden of physiologic adaptation to the denture.

The tongue plays a major role in speech. It changes position and shape for the pronunciation of each of the vowels, and it is the principal articulator for the consonants. In pronouncing the consonants, the tongue contacts various portions of the teeth, the alveolar ridge, and the hard palate. Since these structures are either replaced or covered by the denture, it was basic to the study to know exactly which portions of these structures are normally contacted by the tongue in pronouncing a given consonant. To accomplish this, palatograms were made on a group of edentulous individuals, with normal speech, who were chosen so as to incorporate a maximum variety of tooth arrangement, tooth occlusion, arch form, arch size, vault form, and vault depth.

A comparative analysis of the palatograms indicated that no two persons contacted exactly the same area in pronouncing a given consonant, but that a sufficient

similarity existed to constitute a pattern. The pattern for the N, D, N, and L sounds were not distinct; i.e., it was not possible to look at a palatogram and determine which of these consonants had been pronounced in making the tracing. However, the pattern for these consonants as a group was distinct, so that it was possible to look at a palatogram and be certain that either T, D, N, or L had been pronounced.

The patterns for the S and SH sounds presented an individual similarity and constituted a distinct pattern. The pattern for the S sound begins approximately in the region of the lateral incisors and bilaterally includes most of the posterior alveolar region. The pattern for the SH sound begins approximately in the cuspid region and bilaterally includes all of the posterior alveolar area and some of the vault. In a comparative analysis of the S and SH palatography, it was found that the rugae area was contacted slightly in some cases and not at all in others, but that in all cases, the entire posterior alveolar area was always contacted. It was also found that the rugae area was only slightly involved in the pronunciation of T, D, N, and L.

The area most sensitive to thickness is the anterior alveolar area from cuspid to cuspid. An addition of 1 mm. thickness in this area made speech awkward and indistinct, and an additional 1 mm. thickness in the posterior alveolar area made speech awkward but not indistinct. The entire vault area could be thickened up to the tongue palatal tracing line without interfering with speech.

To develop a normal S and SH tongue palatal pattern in the waxed maxillary trial base, it is usually necessary to thicken the area outlined by the palatogram. In

most cases, it is also necessary to thicken the area of the incisive papilla to prevent the jet of air emitted by the median sulcus of the tongue from escaping towards the vault. It was found that building the tongue palatal contact area to

normal and thickening the area of the incisive papilla facilitates proper enunciation and eliminates much of the postinsertion practice period.

The Journal of Prosthetic Dentistry
Vol. 8 — Sept.-Oct. 1958 — No. 5.

A Critical Evaluation of Root Canal Cultures

ABE SHEINGORN, D.D.S.

Most teachers of endodontics maintain that the dentist must first obtain a negative culture from a root canal before proceeding to fill it. Direct experimental studies to support this premise are fragmentary.

To take a root canal culture, the operator, using an aseptic technique, introduces a sterile absorbent point into the apical portion of the canal, obtains a sample of periapical exudate (the inoculum) and transfers the moistened point into a suitable culture medium. After an incubation period, the operator notes the presence or absence of bacterial growth in the medium. Cloudiness or turbidity in the medium signifies a positive culture and indicates the presence of micro-organisms in the inoculum. A negative culture, indicating sterility in the inoculum, is obtained when the incubated inoculated culture medium remains clear.

Recent investigations by Leavitt and Rudolph have dramatized the limitation of present-day culture media. Leavitt, using a solid culture medium (trypticase soy broth in agar) into which he could penetrate his inoculum to an air free depth, produced growth of anaerobic root canal micro-organisms which would not

grow in the customary liquid media (glucos ascites medium, brain heart infusion broth, etc.). Since one-third of his cases contained anaerobes, he felt that it was important to isolate them. If Leavitt's observations are correct, the culture media in use today are not completely effective for anaerobic bacteria. Rudolph, using microscope studies of samples derived from the pulpless root canals, demonstrated the presence of bacteria (vibrios, filamentous forms, fusiforms) which he could not cultivate. In addition, dark-field microscopy revealed the presence of spirochetes which also defied cultivation.

A culture in which bacteria are not cultivated despite their presence in the root canal is referred to as a false negative culture and may be due to factors other than inadequate culture media. For example, aerobic bacteria may be present in the canal in very small numbers, living, but not thriving, in a predominantly anaerobic environment. If the operator takes an initial culture on first opening into the canal the inoculum may not contain any of the limited number of bacteria present in the canal. A second culture taken a day or two later (after air has entered the canal allowing the aerobes to multiply)

would probably prove to be positive.

The diffusion of antibiotic root canal medicaments into the inoculum may also result in false negative cultures because the drugs inhibit bacterial proliferation in the culture medium. To overcome this problem antibiotic inactivators may be added to the medium. However, PBSC (a popular root canal medicament paste consisting of penicillin, bacitracin, streptomycin and sodium caprylate) cannot be completely inactivated since there is no known inactivator for bacitracin.

Although modern dentistry has placed great stress on the importance of obtaining a negative culture before filling a root canal, direct experimental studies to support his premise are fragmentary. One assumes that pulpless teeth whose canals are filled only after a negative culture have an improved prognosis, but more evidence is needed before such an assertion can stand on an actual rather than an empirical level.

Statistics comparing the healing of positively cultured teeth which were filled with the healing in negatively cultured teeth similarly filled would give a more accurate picture of the real advantage of culture-taking. To date, no such statistical comparison has been reported. A difficulty encountered on such studies is the occasional fallibility of x-ray readings which are used as evidence for healing. That is, one generally accepts the presence or absence of an intact lamina dura, and the change in the size and character of radioluscent periapical areas as clues to

the degree of success or failure following root canal therapy.

From a clinical standpoint, the dentist cannot be expected to take a biopsy on each of his cases in order to prove that healing has really taken place. Thus x-ray readings (fallible as they may at times be) plus favourable signs and symptoms must remain the clinician's guide to adequate healing following root canal therapy.

Concepts of culture readings in endodontics that are expressed in absolute terms are inaccurate. There is a greater chance of having a sterile canal when the culture is negative than when it is positive, but one cannot categorically accept a negatively cultured canal as a sterile one. Sterility in the canal is a goal the dentist strives for, but one which he may or may not attain.

Adequate mechanical cleansing and proper filling of the canal remain the primary factors in successful root canal therapy and should not be neglected by over-emphasizing bacteriological considerations.

Until adequate statistical data are gathered to support a better prognosis for negatively cultured canals than for positively cultured ones, we accept the advantages of culturing on a theoretical basis only. Nevertheless, it is wiser not to abandon root canal culturing unless well controlled studies show that it is as safe to fill an infected canal as it is to fill a sterile one.

Journal of the District of Columbia Dental Society
Vol. 33 — Sept. 1958 — No. 3.

Ancient Insights — To gnash or grind the teeth, unless this has been a habit from childhood, is a sign of madness and death. If a patient who is already out of his mind does this, then it is certainly fatal. It is also fatal when teeth become dry . . . Mortification of a tooth brings an end to a gingival abscess . . . When severe fever and delirium supervene on mortification of a tooth, it is a sign of death. If recovery takes place, there will be suppurating ulcers and sequestration of the bone . . . There is the danger, when there is violent pain in the jaws, that there will be sequestrum formation in the bone . . . Pursing of the lips denotes a bilious flux of the bowels . . . Bleeding from the gums on top of relaxed bowels is a fatal sign.

Hypocrates.

EDITORIAL

Adieu

For the past five years the Canadian Dental Association has been privileged to have as editor of its journal, Dr. Wesley J. Dunn.

Upon graduation, Dr. Dunn was possessed with an insatiable desire to enter his chosen profession and to bring to it all his youthful eagerness and energies. Here he left the ranks of the ordinary and proceeded with an uncalculated deliberateness to fashion for himself and his profession, an extraordinary future.

It was only a matter of months until latent abilities in the field of dental journalism were realized and developed. As his exceptional resources were tapped, it became more apparent to his confreres that such natural assets must in fairness to his profession, be exploited to their fullest degree. Mirrored in his acknowledged contributions to dental journalism, were two of the most enviable products of integrity and wisdom—leadership and administrative ability. And so Dr. Dunn's future experienced another change.

Now added to his editorial duties was the secretariat of the Royal College of Dental Surgeons. This new responsibility was achieved at the sacrifice of his private practice, which somehow he had managed to efficiently carry on for the previous seven years.

With unassuming modesty, Dr. Dunn

proceeded quietly but momentously to wear both hats with equal capability. However, within three years time the inevitable happened. He was caught and restrained, the victim of his own abilities. For under his care these two enterprises had grown to such a size that singly they now demanded more of his time than any one man could reasonably give. Another adjustment was imperative.

Since neither field of endeavour was willing to release him, it reduced itself to a matter of personal preference. The pull of the R.C.D.S. and all its changing facets and explorable potential was too strong. The Journal lost.

The only comforting spoils of this combat are that Dr. Dunn's embracing loyalty to organized dentistry will never permit him to lose interest in his journal. So, even though his pathway has been diverted, his loyalties have not been sundered. He will always keep a fatherly and advisory and perhaps a somewhat jealous eye on his first love, the Journal.

Throughout his years as editor of the Journal Dr. Dunn made fast and true friends for himself and his profession, both nationally and internationally. The Canadian Dental Association at its annual meeting in Montreal recorded its grateful appreciation for his services, honouring him with an engraved silver platter which he prizes.

In November the American Association of Dental Editors held its annual meeting in Dallas, having as its president, Dr. Dunn. Here it was most pleasingly apparent that everyone not only admired him for his sincerity and ability, but, perhaps more important, everyone genuinely liked him. Many compliments were directed to him and as his term of office drew to a close he was presented with a handsome Stetson. As an unexpected but cherished measure of goodwill and comradeship Dr. Dunn was made an Honorary Indian of the Creek Tribe. Officially (as a Creek that is) he is called **THA JEE DOAK KEE HA YA** which when translated means Deadline Maker. Although this last episode transpired in an atmosphere of joviality, it is indicative of the friendly feeling that Dr. Dunn seems so effortlessly to create wherever he goes.

To this admirably self-disciplined man with his seemingly boundless ability and energy, we of Canadian dentistry must say a sincere "thank you." The Journal of the Canadian Dental Association and all

those associated with its production extend to him their special gratitude and best wishes for the future.

The gap created by Dr. Dunn's retirement as editor, is much too wide to be breached even adequately in a short period of time. As his successor in this capacity I feel entirely awed. Your new editor brings with him a true desire to serve his profession as well as he is able to; relying heavily in the process upon the support of his co-workers, the members of the Canadian Dental Association and in particular upon the ready assistance of the retired editor. The advancement of our profession and the dissemination of accurate information will continue to be the goal of the pages of your journal. During the learning process mistakes will be made and these will readily be admitted.

It is my sincere wish that as time makes the routine part of editorship less bewildering, with your help your journal may continue to be the respected publication it is today.

BOOK REVIEWS

Implant Dentures. Prepared by: Aaron Gershkoff and Norman Goldberg
Published by: J. B. Lippincott Co.
Pages: 256 Price: \$12.00

Doctors Gershkoff and Goldberg have compiled and written a very worthwhile book on implant dentures. The history of metal appliances used in medicine encouraged research for the use of metal implants in dentistry. Particularly so after a tissue tolerant alloy called Vitallium was discovered. A ten-year period of trial and error has resulted in the production and insertion of successful implants in both the mandibular and maxillary regions.

Microscopic studies of the histopathology of subperiosteal prosthodontics implants have proven favourable. The implants revealed a tenacious attachment of the tissue around the metal to the bone.

The greatest deterrent to their use has been the fear of infection around the protruding metal posts. However, no abnormal histopathologic reactions, either to the implants' mesh work or around the abutments, have been identified, when an insert has been properly designed and inserted.

There is a long list of contraindications as to their use. Often the patient who needs them most is suffering from

some debilitating disease and cannot obtain them. Nevertheless there are many mouths for which the conventional dentures are inadequate and implants are the only answer.

The implant technique is outlined in a very comprehensive manner. The description and designs of both the maxillary and mandibular implants are of great interest. For those who plan to do implants this book is an inspiration. Great progress is being made in dentistry as in other sciences. To read this book is to keep abreast of the times.

S. J. HOPKINS

Accepted Dental Remedies. — Prepared by: A.D.A. Council on Dental Therapeutics, 222 East Superior Street, Chicago 11, Illinois, U.S.A.
Pages: 210 Price: \$3.00

ACCEPTED DENTAL REMEDIES 1959, which bears the insignia honouring the Centennial of the American Dental Association, represents a milestone marking the twenty-fifth year in which the publication has been made available to the members of the profession. Approximately a quarter of a million copies of Accepted Dental Remedies have been printed during this period.

The new edition contains expanded sections on dental therapeutics. The monographs have been reviewed by the Council and its consultants and have been rewritten in the light of current scientific information. The reorganized format, which made last year's edition so popular, has been retained with minor additional improvements. A discussion of the prescription use of fluoride preparations is included in the chapter on Fluoride Compounds.

As in earlier editions, Accepted Dental Remedies 1959 includes information concerning drugs of recognized value in dentistry, drugs of uncertain status more recently proposed for use by the dentist, and some drugs once employed extensively but now generally regarded as obsolete. Only brands of drugs which the Council has classified in Group A are included in the book.

Accepted Dental Remedies 1959 contains 224 pages, including the provisions for acceptance of products, a general index, a distributor's index, an index of current reports from the Council and the Division of Chemistry, and an index of more recent reports on products not listed in the book, including those classified in Groups B, C and D.

THE LIBRARY

ADDITIONS

AMERICAN DENTAL ASSOCIATION: Accepted Dental Remedies. 24th ed. 1959. 210 p. \$3.00.

AMERICAN DENTAL SOCIETY OF EUROPE: Transactions of the sixty-second meeting held at the Royal College of Surgeons, London, July 10 to 13, 1956. 59 p. illus.

DENTAL CLINICS OF NORTH AMERICA, Nov. 1958: Symposium on dental materials — their use and recent development. Philadelphia, Saunders, 1958. 276 p. illus.

McNAIR SCOTT, T. F., & CRAWFORD, M. N.: Canker sores. (Practical dental monographs, September 1958.) Chicago, Year Book Publishers, Inc. 1958. 32 p.

MODELL, W.: Drugs of choice 1958-1959 written by 37 eminent contributors. St. Louis, Mosby. \$12.75.

WILKINS, R. M., McCULLOUGH, P. A., & STICKELS, C. M.: Clinical practice of the dental hygienist. Seattle, University of Washington Press, 1958. 435 p. illus. \$5.00.

THE ASSOCIATION

C.D.A. Sole Occupant of Headquarters

Canada's national dental organization has become sole occupant of its headquarters building. Both the Ontario Dental Association and the Royal College of Dental Surgeons of Ontario have been tenants of the Canadian Dental Association headquarters since the building was opened in 1950.

Within the past week, the R.C.D.S. moved into its own building immediately south of C.D.A. headquarters. Also in the new R.C.D.S. building will be offices of the Ontario Dental Association and the Academy of Dentistry, Toronto. The proximity of the two buildings should tend to continue the close cooperation of these dental organizations.

Expansion of C.D.A. activities made it essential to occupy all the space in the building.

Advisor to Civil Defence Appointed

Annual meetings of the Association, in 1956 and 1957, passed a resolution urging the appointment of a dentist to the Civil Defence administration. We quote part of a letter recently received from Dr. G. D. W. Cameron, Deputy Minister of National Health, announcing the appointment of Dr. Hugh R. McLaren.

"Within the Department, responsibility for advising Civil Defence Health Services on matters relating to participation by members of the dental profession in the care of mass casualties, as well as in other essential emergency health services which would be needed in event of disaster, has been assigned to our Division. The duties involved will be carried out for the most part by Dr. Hugh R. McLaren, who will serve as that Division's Advisor to Civil Defence Health Services. In addition, he will be responsible for maintaining liaison between our Defence Health Services and the dental profession, the dental schools, the Royal Canadian Dental Corps, etc."

Dr. McLaren has assisted officers of Civil Defence Health Services in a study of the role of the dentist in Civil Defence and has been a member of the instructional staff at the Civil Defence College.

The President of the C.D.A. has expressed the profession's appreciation of this appointment to the Deputy Minister.

Courses on Dentistry for Children Planned for Alberta Centres

OTTAWA, December 5, 1958 — A federal health grant of more than \$2,300 has been approved to help meet the costs of seminars on children's dentistry for practising dentists in Alberta.

Organized in co-operation with the Alberta Dental Association, the refresher courses will focus attention on new methods in treatment and on improved dental services for children. Each course will last two days, with one seminar devoted to pedodontics and one to orthodontics. At the outset the course in pedodontics will be given by Dr. C. R. Castaldi and the course in orthodontics by Dr. R. D. Haryett, both of the faculty of dentistry, University of Alberta.

It is expected that the seminars will be given in Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer and Grande Prairie.

C.D.A. Retirement Savings Plan

Valuation Date	Government Bond Fund	Corporate Bond Fund	Common Stock Fund
March 1	\$10.00	\$10.00	\$10.00
June 1	10.98	10.16	10.712
Sept. 1	10.022	10.213	11.173
Dec 1	9.942	10.258	11.845

This is the gratifying performance record of your C.D.A. RETIREMENT SAVINGS PLAN in less than one year of operation. Initial value of units in each of the three funds was \$10.00 (March 1, 1958). Evaluations are made quarterly,

March 1, June 1, September 1, and December 1, and reported in the Journal.

Deadlines for the 1958 taxation year are at hand:

New applications — must be received by December 31, 1958.

Contributions — for new or existing applicants, to qualify for income tax relief for 1958, must be received by February 15, 1959. As long as you have applied for membership in CDARSP by December 31, 1958, you may make contributions any time to February 15, 1959.

Applications, contributions, or requests

for information, should go to Canadian Dental Association Retirement Savings Plan, 2249 Yonge Street, Toronto 7, Ontario (telephone HU. 1-5731).

Why Fight The Facts?

Reprints of the fluoridation article by Leonard Bertin, science editor of the Financial Post, which appeared recently in the Financial Post, provide a good summary of the fluoridation situation in Canada. Copies of the reprint are available from C.D.A. Headquarters. Price (\$1.00 per 100).

THE CORPS

Brigadier K. M. Baird Inspects No. 14 Dental Company

Brigadier K. M. Baird, Director General of Dental Services inspected R.C.D.C. facilities at Army and R.C.A.F. Units in No. 14 Dental Company, Prairie Command during the latter part of November. No. 14 Company, with headquarters in Winnipeg, is commanded by Lt.-Col. C. E. Purdy.

Captain W. K. Dickie Promoted

Army Headquarters has announced the promotion of Captain W. K. Dickie to the rank of Major effective November 1, 1958.

Major Dickie was born in Campbellton, N.B. on June 10, 1921 and received his High School education there. He served with the N.P.A.M. in the North Shore Regiment from 1936-39 and joined the Active Force in June 1940 with the same regiment. He proceeded overseas in July 1941 and returned to Canada in May 1942 for officers training. After receiving his commission he returned overseas and saw service in England and Northwest Europe. During his overseas service he was twice wounded in action and mentioned in dispatches. He was demobilized in February 1946 with the rank of Major. Following his release he attended the University of New Brunswick where he earned a B.A. degree, and at Dalhousie University received his D.D.S. Major Dickie joined the R.C.D.C.

(R) in September 1953 and on graduation in 1954 was promoted to Captain and posted to Eastern Command in Halifax. He is currently employed in R.C.N. Hospital, Halifax, N.S.

Dr. J. L. Y. Cyrenne Appointed to Corps

The appointment of Dr. J. L. Y. Cyrenne to the Royal Canadian Dental Corps in the rank of Captain, has been announced.

Captain Cyrenne is a native of St. Wenceslas, Que. He was educated at the Seminary of Nicolet where he received his B.A., and the University of Montreal, graduating in 1958 with a D.D.S. degree. He is employed in Quebec Command at Montreal. The appointment was effective August 11, 1958.

Major A. R. Ramsay of Montreal has been posted for a tour of duty as Senior Dental Officer aboard the aircraft carrier H.M.C.S. "Bonaventure".

The following R.C.D.C. Officers have attended courses recently:

Major H. R. Kettys, Edmonton, Alberta—Complete Dentures at University of Washington, Seattle, Washington.

Major F. M. Nesbitt, Winnipeg, Man.—Operative Dentistry at Northwestern University, Chicago, Illinois.

Captain J. L. Craig, Camp Borden, Ont.—Periodontia at U. S. Navy Dental School, Bethesda, Maryland.

THE PROVINCES

ALBERTA

Lethbridge District Dental Society

Dr. Lorne Brooks of Calgary, president of the Alberta Dental Association, addressed the monthly meeting of the Lethbridge and District Dental Society Friday evening at the Marquis Hotel.

He discussed the business matters of the Alberta Dental Association and reviewed the work done during the past year. He stressed the importance of recruiting students for the dental profession and suggested that dentists could invite high school graduates to spend a day at the office to learn how the dental profession is carried on.

Dr. Brooks also discussed the new post-payment plan for dental treatment which the profession will have for Alberta early in the new year.

D.A.R.

BRITISH COLUMBIA

Fraser Valley Dental Society

An informative talk given by Dr. Hamilton Simmons of Shaughnessy Hospital was enjoyed by the members of the society at the October meeting in Chilliwack. Dr. Simmons, who was assisted by Dr. Frank Dyer, explained in a very simple manner many of the surgical procedures confronting the general practitioner.

At the monthly meeting on November 13 the guests were Dr. Wesley Munsie, B.C.D.A. president, and Mr. D. W. Smith, public relations advisor.

Victoria and District Dental Society

At November's meeting thirty-four members and guests listened to Dr. John Folkins of Vancouver who gave an inspiring talk on "Fundamentals of Oral Surgery."

Earlier in the evening Dr. Wesley P. Munsie and Mr. Douglas Smith paid a worthwhile visit and gave addresses which erased many doubts from the members' minds regarding the new public relations program in British Columbia.

Fall Meeting at Cranbrook

The fall convention of the Kootenay Dental Society, held on October 4 in Cranbrook, was well attended when Dr. Paul Luxford, oral surgeon from Calgary, the featured clinician, delivered a well-prepared lecture on oral surgery techniques and the use and care of instruments. Both ladies and men were entertained at Dr. Mel Bauman's home before dinner, and at the home of Dr. Frank Fergie in the evening.

Dentists of the Rossland-Trail area are assisting the rural school boards in an effort to carry out a plan for grade one children. The dental needs of the children at Castlegar, New Denver and Invermere are receiving attention.

Fall Convention at Kelowna

Saturday, October 25 was a successful day for the Interior Dental Society when some 22 members showed up all the way from Kamloops and Salmon Arm to Penticton. Several wives came this year on the invitation of the executive and were entertained at a tea given by Mrs. C. D. Newby and the local ladies, and later at a cocktail party and steak dinner at the Aquatic Club.

There was a full day. Dr. C. B. Holmes, local M.D., gave a clinic and demonstration on hypnosis. Two Vancouver men gave clinics: Dr. O. F. Wright, "Cavity Form", and Dr. B. M. Plumb, "Amalgam Manipulation".

The society was pleased to welcome Dr. Munsie, B.C.D.A. president, who paid a flying visit and spoke on association affairs.

A new slate of officers was selected: President, Dr. Wm. McIver, Penticton; Secretary, Dr. Fred Moore, Penticton; Vice President, Dr. Bert Letham, Salmon Arm; Kamloops representative, Dr. D. C. Hicks; Vernon representative, Dr. W. H. Inkster; Past-president and Public Health Representative, Dr. K. Geis; P. R. representative, Dr. B. Bishop, Vernon.

Upper Island Elects New Officers

At the October meeting of the Upper Island Dental Society Dr. Jim Harrison of Vancouver spoke on endodontia.

In November Dr. Ross Upton, executive secretary, gave a run-down on the operation

of the joint-office and covered as many subjects regarding the B.C.D.A. and the College as time would permit.

New officers were elected as follows: President, Dr. J. T. Senini, Nanaimo; Vice President, Dr. W. A. Nicholson, Nanaimo; Secretary, Dr. H. G. Pettapiece, Parksville; Program Chairman, Dr. W. A. MacMillan, Nanaimo.

Nanaimo dentists feel they have scored a first in B. C. They have their own hospital staff with Dr. Jim Eakins on the board and can admit, chart, treat and discharge their own patients.

D.H.M.

- District No. 1—Dr. J. P. Coupland
- 4—Dr. R. E. Diprose
- 5—Dr. W. G. Bruce
- 6—Dr. D. C. Stiles
- 7—Dr. J. R. Hurton
- 8—Dr. A. H. Leckie

Acclamations had previously been received by Dr. W. J. Langmaid in District No. 2 and Dr. M. V. J. Keenan in District No. 3.

An earlier election in the Faculty of Dentistry resulted in the appointment of Dr. J. D. Purves as Faculty representative to the R.C.D.S. Board.

The new Board of Directors will take office in May, 1959.

W.J.D.

NEW BRUNSWICK

New Brunswick Annual Convention

Dr. D. C. Steeves, Moncton, was elected president of the New Brunswick Dental Association at its 63rd annual convention held in November 1958.

Other officers are: honorary life president, Dr. A. J. Coughlan, Saint John; vice-president, Dr. P. M. Clarke, St. Stephen; secretary-treasurer-registrar, Dr. E. D. Halford, Saint John. Dr. Coughlan's honorary position was the first bestowed by the Society.

Named as council members were: Dr. Coughlan, Dr. A. D. Bona, Saint John; Dr. Hazen Cummings, Lancaster; Dr. R. H. Dolan, Fredericton; Dr. S. C. Geddes, Moncton; Dr. Bertin Cyr, Edmundston, and Dr. Donald Voutour, Dalhousie.

Dr. B. O'Brien of Fredericton was appointed C.D.A. representative and Dr. G. Cormier of Moncton, was named representative to the National Dental Examining Board.

Honorary life memberships were conferred on Dr. J. G. Leonard of Saint John and Dr. R. M. MacGibbon of Fredericton.

ONTARIO

Ontario Elects New Board

One of the most spirited elections in recent years has resulted in several new members for the Board of Directors of the Royal College of Dental Surgeons of Ontario. On December 10th the returns were tabulated and the following members will serve for the 1959-61 term:

Health Minister in Kingston

Health Minister Phillips speaking in Kingston recently, said the proportion of sodium fluoride in water systems which have been fluoridated by cities is low and there is no danger to any person.

Dr. Phillips, who spoke at the opening of the new wing of the Ontario Hospital, said he based his statements on the findings of ten-year government tests in Brantford and Sarnia, where fluoride was added to the water.

For two years since the end of the tests, results had been studied and a thorough examination showed that 65 per cent of teeth examined had shown a definite improvement. He noted that at one time all the waters of the earth averaged 1.2 to 1.5 parts fluoride to 1,000,000 parts water.

Dr. Phillips said Kingston, of all Ontario cities, has the lowest count of natural fluorine, .01 parts per 1,000,000 parts water.

Dr. Connor to Direct Manitoba's Dental Health

Dr. Ralph A. Connor, director of preventive dentistry with the St. Catharines-Lincoln Health Unit left in November for his new position as director of dental health for the province of Manitoba with the Manitoba Department of Health and Public Welfare.

Dr. Connor had been with the local unit for 10 years, following completion of a post-graduate course in dental public health. In 1957 he qualified as a specialist in dental public health. It was in the army that he became interested in public health. He enlisted in the dental corps at the outbreak of World War II, and was discharged in 1947 with the rank of acting lieutenant-colonel.

In Lincoln County he had charge of preventive dental services, working with school children between five and thirteen years of

age to cut down the incidence of tooth decay and raise general dental health standards through a widespread educational program. Last year a program for pre-school children (three-year-olds) was inaugurated.

In appreciation for his excellent work, the Niagara Peninsula Dental Association presented Dr. and Mrs. Connor with a going away gift of luggage. The presentation was made by the president, Dr. Donald Copeland.

Dr. Connor expressed his appreciation for the co-operation and assistance given by the director and staff members of the unit, especially the public health nurses, practising dentists, public school inspectors, principals and teachers, Drs. R. M. Grainger and F. A. Kohli of the department of health and the dental public health committee of the Ontario Dental Association.

Ontario Dentists' Curling Association Bonspiel—1958.

The tenth annual bonspiel of the Ontario Dentists' Curling Association was held for the second consecutive year at the Oshawa Curling Club on Wednesday, November 19th, 1958.

There was a full entry of 32 rinks in the competition which was divided into 16 rinks for the 9 a.m. draw and the same for the 11:30 a.m. draw. Each team played two-10 ends games on a point and bonus system.

Teams were present from 18 different places namely—Barrie, Bracebridge, Burlington, Galt, Hamilton, Hespeler, Kitchener, London, Oakville, Orillia, Oshawa, Owen Sound, Peterborough, Sudbury, Toronto, Walkerton, Welland and Windsor. This was the first year for entries to come from Sudbury and Windsor. The annual bonspiel is creating more interest among the dentists so that the past two years entries have exceeded the quota of 32 rinks in the competition.

At the conclusion of the dinner, the presentation of prizes was made by Dr. G. V. Morton chairman of the prize committee. The best team and the winner of the McKenna Trophy was a team from Oakville skipped by Dr. F. Deans, Vice, Dr. A. L. Lunau, Second, Dr. J. F. Haldenby, Lead, Dr. S. H. Boyd. The Oakville rink had a total score of 23 points and an aggregate 25. The Oshawa rink won the Alumni Trophy and the team personnel was—skip, Dr. G. E. Hare, Vice, Dr. J. Langmaid, Second, Dr. D. Langmaid, Lead, Dr. P. Willson.

Other 2 games winners were presented with prizes in order of point position as follows: Dr. C. Moyle, Hamilton, Dr. G. Paterson, Toronto, Dr. C. T. Mason, Hamilton, Dr. D. Ledlow, Orillia, Dr. W. Richardson, Woodbridge, Dr. G. Tokaryk, Sudbury.

Other prize winners of the day were rinks skipped by Dr. L. Janes, Hamilton, Dr. G. Woodger, Barrie and Dr. M. McCartney, Peterborough.

The day's activities were completed by 9 p.m. and an enjoyable day of curling and association was had by all participants at the Oshawa Curling Club through the co-operation of Dr. John Brock and the other Oshawa dentists.

A. R. P.

Academy of Dentistry Holds Winter Clinic

Thursday, Nov. 27th, 1958 was again Winter Clinic Day for the Academy of Dentistry, Toronto. This one day convention has become increasingly popular each year and was no exception this time. Under the chairmanship of Dr. J. A. Bigelow, the Winter Clinic Committee presented a varied and comprehensive programme consisting of group clinics in morning and afternoon sessions and table clinics in the evening. Commercial exhibitors had two periods of showing, one prior to dinner and then one all evening in conjunction with table clinics.

Luncheon was highlighted by the guest speaker, Hon. Robert Winters, currently president of Rio Tinto Mining Company and formerly a cabinet minister in the federal government of the Liberal administration. He spoke on the subject "Developing Canada's Resources" and was listened to attentively by a large gathering. Dinner was a more social affair with background music supplied by Horace Lapp at the Casavant organ.

Attendance was excellent and again many out-of-town dentists availed themselves of the Clinic. There were 167 registrations from outside the Metropolitan area of Toronto and there were 344 registrations from the Metropolitan area. In addition to this, the senior year in Dentistry and Dental Hygiene at the Faculty of Dentistry, Toronto, were complimentary registrations. The Ontario Dental Nurses' and Assistants and the Dental Nurses' Alumnae conducted a joint session in the afternoon in conjunction with the Winter Clinic and had an excellent attendance.

Niagara Peninsular Dental Association

The second regular meeting of the N.P.D.A. was held on Friday, November 14, at the Barklay Hotel, Welland. The meeting took the form of an all day clinic. Dr. P. G. Anderson, the guest clinician, presented a very interesting and informative review of gold work in general.

T.E.A.

Ottawa Dentist—Alderman

Dr. Murray A. Heit made his first bid for municipal office — winning a sweeping victory in Gloucester Ward.

Dr. Joseph Lesniak Nominated Conservative Candidate

One of the youngest men ever nominated, Dr. Joseph Lesniak, 26, won the decision over Mr. S. Frolick, young Toronto lawyer, as Progressive Conservative candidate for Trinity riding for the federal by-election which was held on December 15th.

Long active in party youth organizations, Dr. Lesniak is vice-president of the Young Progressive Conservative club of Parkdale. He has practised dentistry since graduation from the University of Toronto in 1956.

Dr. Lesniak was defeated by the Liberal candidate Mr. Paul Hellyer.

Dental Alumni News

The Alumni sponsored office visitation took place in October and the offices of Drs. J. Kreutzer, N. Hori, C. Adams, H. Travers, D. MacDonald, R. Leuty, were made available for the graduating class and their friends. This event gave the class a chance to see various offices and the dentists gave valuable advice regarding equipment, furnishings and management. They were later entertained at Prince Arthur House.

Dr. Fred Pearson representing the Dental Alumni, laid a wreath at Memorial Tower, Hart House, on Armistice Day, November 11th. This impressive ceremony was witnessed by the undergraduates and college staff, and Alumni representatives from all the faculties took part.

Despite inclement weather, the annual Faculty Alumni Day, November 28th was a success. Chairside Clinics were added to the program this year, and this idea will be continued. In the new building, facilities will be ideal for this sort of teaching. Lunch was held in the Great Hall at Hart House and was enjoyed by all. The faculty arranged a fine program, and thanks go to Drs. G. Morgan, R. Burgess, G. Hare, A. Antoni, R. Leuty, and M. Jackson, for giving of their time and knowledge.

Dr. Robert Leuty installed the new Alumni president, Dr. Harry Hunter, and announced that membership is now over 550 members.

The Alumni sponsored student loan fund has over \$3,000.00 at the present time. Dr. Hunter presented Dean Roy Ellis with two \$200.00 bursaries.

The Alumni executive for 1959 is as follows: Honorary presidents, Dr. A. A. Mason and Dr. J. E. Tilson; Imm. past president, Dr. R. D. Leuty; president, Dr. H. Hunter; president-elect, Dr. F. T. Pearson; secretary, Dr. F. C. Lackie; treasurer, Dr. W. L. Kerr; district representatives—Drs. H. G. Travers, M. Cornish, R. F. Breen, J. F. Freeman, J. Tate, Wm. Banting, D. G. Langmaid, and R. D. Leuty.

Hya Yaka

The Dental Students' Society have initiated a plan to produce a special issue of "Hya Yaka" in 1959. This is the magazine of the dental students of the Faculty of Dentistry, University of Toronto. 1959 will observe the Fiftieth Anniversary of the opening of the present dental building, and as this will be the last issue from 230 College Street, it is proposed to give full coverage to the history of the building at this address.

QUEBEC

Montreal Dental Club

The regular monthly dinner meeting of the Montreal Dental Club took place in the Queen's Hotel on Monday, Nov. 3rd; Dr. R. F. Harvey presiding.

Following the evening meal and the business portion of the meeting, guest speaker Dr. A. J. Schutz, spokesman for the Montreal Society of Hypnodontics and Psychological Dentistry, gave a most interesting and informative talk on the use of hypnosis in dental practice. Dr. Schutz made it quite clear that he had no intentions of teaching Club members how to become hypnotists, but rather, to dispel any misconceptions which may have existed in the minds of the members about hypnosis, and to place it in its true light, void of any false veils of mysticism, magic, or supernaturalism. Dr. Schutz then spoke of specific instances where hypnosis is of invaluable aid in rendering dental services. His talk was followed by a short film on hypnosis prepared by the Montreal Society of Hypnodontics and Psychological Dentistry.

Following the film, Dr. Schutz demonstrated the methods of inducing a trance state in a previously conditioned subject, and how to develop hypnoanaesthesia.

Dr. Frank Shamy, President of the M.S.H.P.D., working with another pre-conditioned subject, demonstrated the techniques of deepening the trance state, and the phenomena of the deeper stages.

Dr. J. Vincelli, another member of the M.S.H.P.D., demonstrated different induction techniques with volunteers from the M.D.C. members, and was followed by a question period.

Dr. Doug Richardson, on behalf of the M.D.C. thanked the speakers and presented Dr. Shamy with a cheque to further the activities of the Montreal Society of Hypnodontics and Psychological Dentistry.

W.D.S.

Mount Royal Dental Society Scientific Meeting

The November 14 all-day scientific meeting of the Mount Royal Dental Society featured Dr. Arthur E. Kahn of New York City as guest clinician. His topic "The Basic Requirements for Successful Occluso-Rehabilitation" was thoroughly covered. Dr. Kahn substantiated his talk with numerous slides and models.

Dr. Kahn feels that many mouths are presently being destroyed rather than improved. He urged the perpetuation of the "Negative Occlusal Factor." Rehabilitation is indicated where there is severe periodontal breakdown or where there is a need for multiple restorations.

His introduction was followed by a detailed survey of the modern techniques for satisfactorily accomplishing a rehabilitation. He comprehensively covered impression-taking, retraction, provisional splinting and many other topics.

Members of the society as well as guests appreciated his sincere and stimulating presentation.

Dentists Named for Advisory Board of Health

Montreal City Council recently named an advisory Board of Health. There are twenty-four members, seven from city council. Among those named were Dr. Paul Geofrion, of the University of Montreal, and Dr. James McCutcheon of McGill University.

Mount Royal Dental Society

The 1958 session of the Mount Royal Dental Society was opened with a dinner meeting on October 8th, held at the Queen Elizabeth Hotel. The guest speaker, Dr. C. P. Martin, formerly Professor of Anatomy at McGill University, spoke on the subject "Are Teeth Necessary?"

He cited examples of species such as birds and sea urchins which survive without teeth. He stated that the human face is a vestigial organ developed from the animal snout. In man the snout degenerated and the eyes

rotated around to the front of the head. As the soft parts of the face regressed the teeth did not seem to regress as quickly, the result being that many of us have too many teeth to fit our faces. Modern concepts of evolution cannot explain this fact.

Dr. Martin believes that disuse leads to atrophy. In modern man the third molar is tending to become vestigial and there is a decrease in the size of the canine teeth. Due to modern methods of cooking, we may eventually become edentulous. The humorous as well as scientific content of his talk made a very informative and enjoyable first meeting.

SASKATCHEWAN

Prince Albert Dentist Honoured

Dr. Mabel G. Connell of Prince Albert, Saskatchewan, was highly honoured when recently appointed to the Board of the Canadian Broadcasting Corporation. This is indeed an honour to Dr. Connell, but it carries responsibilities and will be demanding upon her time and energy. It will be a further opportunity for her to render services in her very capable manner to the citizens of Canada.

Dr. Mabel Connell was born in Frontenac County, Ontario and received her elementary education in Kingston. She received her B.A. degree from Queen's University in 1917 and her D.D.S. Degree from the University of Toronto in 1923. She practised in Calgary until 1927 when she married Dr. Lorne Connell. They practised in Govan, Saskatchewan until 1935 when they set up practice in Prince Albert.

It is possibly a record in Canada in the respect that she and her husband have practised Dentistry in partnership continuously for thirty-one years.

They have two children; a married daughter living in Toronto and a son Dr. George Connell, who is on staff in the Department of Biochemistry, University of Toronto.

Dr. Mabel Connell has been interested in serving the community in important phases. She served for 14 years on the Collegiate Board in Prince Albert; served on the Prince Albert Regional Library Board; on the Council for Crippled Children and as Provincial Director of the Canadian Federation of University Women.

As a profession we congratulate Dr. Mabel Connell upon this appointment, and wish her well in carrying out the duties she has undertaken.

Dr. Lorne Connell of Prince Albert, Saskatchewan was recently appointed to the Senate of the University of Saskatchewan. He has served the profession well and faithfully in many offices over the years. The most important contribution was as a member and President of the Council of Saskatchewan College of Dental Surgeons.

Saskatchewan Dental Council

At the recent meeting of the council a welcome was extended to a new member, Dr. Ben Bookhalter of Regina. Dr. W. Watchler retired as president and was succeeded by Dr. Duff Leask of Moose Jaw. Present members of the council are: President, Dr. D. Leask; Vice-president, Dr. Brett, and Dr. W. Watchler, Dr. J. Schachter and Dr. B. Bookhalter.

Emergency Dental Service

In Regina, for some time an emergency dental service has been operating. This emergency service operates after office hours and on holidays. If patients are unable to contact their personal dentist, because of his absence on holidays or for other reasons, they are asked to phone the Dental emergency number. This number is listed in the phone book. The patient is referred to the

dentist who is on the emergency call list at the particular time.

The Saskatoon Dental Society has just set up a similar emergency service as that in Regina. This type of service, we understand, is operated in a few cities in North America.

Saskatoon Dental Society

The last meeting of the Society was Ladies Night. Not only present were the wives of the local members but all the members of the Saskatchewan Council of the College of Dental Surgeons and their wives. It was the most successful Ladies' Night for years. Considerable interest and appreciation was evident, which augurs well for the convention year 1961.

A very distinct feature of the evening was the presentation of Certificates to four local members. Dr. Frank Skinner, Dr. C. Smith, Dr. B. Swartout and to Mrs. Salisbury on behalf of her husband the late Dr. F. Salisbury. Each of the honoured members was over seventy years of age.

Moose Jaw

Dr. Fraser Muirhead was recently elected for his second term as alderman for the city of Moose Jaw.

L.D.H.

GENERAL NEWS

Fluoridation in Rock Island and Stanstead, P.Q.

Since July 1, 1958, the communal water supplies of the Town of Rock Island and the Village of Stanstead, in the province of Quebec, have been fluoridated.

The population of Rock Island is about 2,500 and Stanstead about 1,000. Both communities are serviced by the same company, the International Water Company, Derby Line, Vermont. This is an instance of inter-

national co-operation. The International Water Company is a private company and the great bulk of its shares are owned by the three municipal councils, namely, Rock Island, Stanstead, and Derby Line, Vermont.

Readings are taken every day by the manager, and the state engineer inspects and takes readings at least twice per month. It has taken time to accomplish all this, and we trust that better dental health will be the reward.

V.B.G.

Six Canadians Receive F.A.C.D.

At the Convocation of the American College of Dentists held on Sunday, November 9th, in Dallas, Texas, six Canadian dentists had fellowships conferred. The dentists honoured were:—Dr. James Zimmerman of Calgary, Dr. J. W. Neilson of Winnipeg, and Drs. George C. Hare, Owen Yule, George Morgan, and Edmund T. Guest, all of Toronto.

Dr. Don W. Gullett was elected President-elect of the College.

Few Anti-Fluoridation Responses Found in National Study

Despite controversy about water fluoridation in some parts of the country, it is a subject unheard of by 26 per cent of the adult public, according to a nation-wide survey sponsored by the National Association of Science Writers. The survey, made under a grant from the Rockefeller Foundation, was conducted by the Survey Research Center of the University of Michigan. Results of the study, designed primarily to measure the size of the audiences of newspapers, magazines, television and radio interested in scientific subjects, were incorporated in a 254-page report, entitled "The Public Impact of Science in the Mass Media." One portion of the study was based on a so-called science information scale and included questions to the public about four scientific topics considered relatively widely known. In addition to fluoridation, the topics included radioactive fallout, vaccine for preventing infantile paralysis and space satellites. The questions relating to fluoridation were: "In some places around the country, fluorides are being added to the drinking water. Have you heard anything about that?" (If yes) "What do you think is the purpose of adding fluorides to the drinking water?" The statistical breakdown of answers indicated the following:

Never heard of fluoridation, 26 per cent; Confuses fluoridation with chlorination of water, 12 per cent; Reports only, or mainly, misinformation, 3 per cent; Heard of it, doesn't know any details, 3 per cent; Reports half correct information, half misinformation, 5 per cent; Vague answers like "it helps teeth," but no mention of preventing tooth decay, 11 per cent; Prevents tooth decay, straightens teeth, 40 per cent.

The report added:

There were, however, few answers which included comments that could be classified as anti-fluoridation responses. Only four per cent of the sample made these comments and most of them were not the wild, crackpot opinions that have figured in the anti-fluoridation fights.

It would seem that the strength of the anti-fluoridation campaigners is not in numbers but in organization, pressure and propaganda.

On the other topics, 33 per cent of the public had never heard of radioactivity, 54 per cent had not heard of space satellites and four per cent were not familiar with polio vaccine. The survey covered a carefully selected sampling of 1,919 adults in private dwelling units in 66 sample points throughout the country. The interviews, averaging upward of an hour and a half each, took place in March and April of 1957.

American Association of Dental Schools Appoints Secretary

Mr. Reginald H. Sullens, of Chicago, associate secretary of the Council on Dental Education of the American Dental Association, has been named to fill the new position of executive secretary of the American Association of Dental Schools. Mr. Sullens assumed his new duties on Jan. 1, 1959.

The A.A.D.S. represents dental schools in the United States and Canada.

The appointment of Mr. Sullens completes arrangements for the establishment of a full-time Central Office staff for the Association. The headquarters will be located in Chicago at the newly-constructed office building of the American Hospital Association at 838-40 North Lake Shore Drive.

The dental schools in the United States and Canada constitute one of the larger groups of professional schools on the continent. The 47 U.S. and five Canadian schools have an undergraduate enrollment this year of more than 14,000 students. The number of dental graduates for the 1958-59 year is expected to exceed 3,200. In addition, the schools sponsor post-graduate dental training for more than 6,000 dentists.

During the past year, about \$35 million was spent for operation by dental schools in the United States. Over the past 10 years the dental schools have put more than \$60 million into the construction and remodeling of dental schools.

In his new position, Mr. Sullens will be responsible for the business affairs of the Association and for the development of national programs under A.A.D.S. sponsorship. Purpose of the Association is to aid in the advancement of teaching and research and to maintain high standards of training in all dental schools.

IN MEMORIAM

Harold Arthur Swales—Dr. Harold Arthur Swales of Toronto, died on October 16, 1958. He was 56.

Dr. Swales was born in Creemore, Ontario and received his early education at Beeton, Ontario. He graduated from the University of Toronto in 1926 and practised from 1926 to 1929 in Creemore and Beeton, and from 1929 to 1958 in Toronto.

Dr. Swales was past-president of the Academy of Dentistry; past-chairman of the Dental Public Health Committee of the Ontario Dental Association; District Regent of the International College of Dentists, and he also served on numerous Canadian Dental Association committees.

He was installed a Master in January 1941, of the Delta Lodge A.F. and A.M., Past District Deputy Grand Master, Toronto District C (1943); Member of the Lodge of Perfection Scottish Rite. He was a member of the Ontario Jockey Club and was an ardent lawn bowler. At school he played soccer.

Dr. Swales was pre-deceased by his wife Muriel in 1942, he is survived by his sister, Miss Nellie Swales.

John Matthew McBrien—Dr. John Matthew McBrien of Prince Albert, Saskatchewan, died in December 1958 at the age of 54.

Dr. McBrien was born at Hartney, Manitoba, where he received his early education. He graduated in dentistry from the University of Toronto in 1928.

After graduation he went to Meyronne, Saskatchewan where he practised from 1930 to 1940, after which he went to Prince Albert.

Dr. McBrien was prominent in sporting circles, he was an active member of the curling club, and an ardent hunter and fisherman. He was a Mason, a member of the Prince Albert Shrine Club and Wa Wa Temple, Regina, and also of the BPOE.

Surviving are his wife, Hazel, two daughters, Valerie and Joan, his mother, Mrs. W. H. McBrien, two brothers, Albert and George, and one sister, Mrs. A. Castle.

Frank Lethbridge Cole—Dr. Frank Lethbridge Cole of Toronto, died on November 25th, 1958.

He was born at Bowmanville, Ontario, in August 1890, and received his early education in Toronto. In the year 1918 he graduated from the R.C.D.S. and established his practice in Toronto, where he worked until 1958.

Dr. Cole was a former member of the Civitan Club of Toronto; Psi Omega Fraternity, and was also a Mason.

Surviving are his wife Clara, a daughter, Mrs. S. Sidall, a son, Donald B. and a sister, Mrs. A. Stewart.

George MacKay Sutherland—Dr. George MacKay Sutherland of Toronto, Ontario, died on October 7, 1958. He was 87.

He was born in Woodstock, Ontario and received his early education there. He attended Western University Dental Dept., and McCormack University, Chicago, and graduated from the Royal College of Dental Surgeons of Ontario in 1907. He practised in Massachusetts from 1896 to 1907 and from 1907 to 1958 in Toronto.

Dr. Sutherland was made an Honorary Member of the R.C.D.S. in 1955. He was a past member of some committees in local societies.

Surviving is his wife, Florence Pierce.

Joseph Thomas Irwin—Dr. Joseph Thomas Irwin of Toronto, died on October 11, 1958 at Sunnybrook Hospital.

He was born in Campbellford, Ontario and received his early education there. Dr. Irwin graduated from the Royal College of Surgeons of Ontario in 1920 and established his practice in Toronto.

He was a member of the Masonic Order and of Rosedale United Church, he was also a member of Mississauga Golf Club and the Carlton Club. During World War I he served with the 5th Canadian Field Ambulance Corps.

He is survived by his wife, Penny, two daughters, Joan and Jean, and his parents, Mr. and Mrs. J. A. Irwin, of Campbellford.

ANNOUNCEMENTS

Conventions of The Canadian Dental Association

1959	Halifax, Nova Scotia	June 21st - 24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th - 28th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Ontario)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
Jan. 29-31, 1959	Annual Meeting—Newfoundland Dental Society	Corner Brook, Newfoundland	Dr. J. H. Hann,	323 Hamilton Ave., St. John's, Nfld.
May 10-13, 1959	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
May 28, 29, 30, 1959	British Columbia Dental Asso- ciation Annual Convention	Hotel Vancouver, Vancouver, B.C.	Dr. W. Ross Upton, Exec. Sec.,	217 Medical Dental Bldg., Vancouver 1, B.C.
May 31- June 3, 1959	Western Canada Dental Society Convention	Banff Springs Hotel, Banff, Alberta	Dr. C. S. Lea, Secretary,	706 Greyhound Bldg., Calgary, Alberta.
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden, Sec.-Treas.,	183 Metcalfe St., Ottawa, Ont.
July 11-14, 1960	11th Triennial Pacific Coast Dental Conference	Portland, Oregon, U.S.A.	Dr. K. R. Jensen, Secretary,	1033 S.W. Yamhill St., Portland 5, Oregon, U.S.A.

ACADEMY OF DENTISTRY, TORONTO

Feb. 12, 1959—Second Stated Meeting—Osler Hall
Mar. 6, 1959—Academy Dinner Dance—Granite Club
Mar. 26, 1959—Third Stated Meeting—Osler Hall

For further details write to: Dr. Vernon Herron, Secretary, Academy of Dentistry, 230 St. George St., Toronto 5, Ont.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

Postgraduate Courses: "Clinical Adjustment of the Occlusion"—April 2, 3, 4, 1959. Tuition \$100.
"A Special Participation Course in Periodontology—"—One Week—Sept. 21 through
Sept. 25, 1959. Tuition \$150.

For further information write to: Division of Graduate and Postgraduate Studies, Tufts University School of Dental Medicine, 136 Harrison Ave., Boston 11, Massachusetts.

UNIVERSITY OF ALABAMA

Refresher Course: "Occlusal Adjustment: Its relation to dental, periodontal and temporomandibular joint problems"—March 7, 8, 9, 1959.

For further information write to: Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 Seventh Ave. South, Birmingham, Alabama.

JOURNAL

Le dentiste et l'hépatite sérique

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Le dentiste est au fait des principales infections qui touchent la cavité buccale, angines de Vincent, lésions herpétiques, infections à streptocoques, staphylocoques et à mycoses . . . Il est une maladie cependant qu'il connaît moins et dont il ne doit pas ignorer l'existence: c'est l'hépatite sérique, qu'on dénomme aussi: hépatite à sérum homologue (E.U.A.), hépatite ou jaunisse d'inoculation, hépatite virale, hépatite B, jaunisse de transfusion.

Tout praticien, qu'il soit médecin ou dentiste, doit savoir que, lorsqu'il pose un acte médical, il peut infecter son patient avec le virus de l'hépatite sérique, si ses méthodes d'antisepsie et d'asepsie ne sont pas adéquates.

Au cours de ce bref exposé, nous verrons ce que c'est que l'hépatite sérique, ses signes cliniques, son évolution, ses particularités, le traitement à y apporter ainsi que les mesures préventives.

DÉFINITION

L'hépatite sérique est une infection du foie causée par un virus et transmise d'homme à homme lors des transfusions, injections de plasma, vaccinations, injections de toutes sortes ainsi que des actes chirurgicaux.

SYMPTÔMES CLINIQUES

L'hépatite sérique présente un tableau clinique semblable à celui de l'hépatite infectieuse avec cette différence que la première s'installe plus graduellement et présente un peu moins de fièvre (en bas de 100.2). L'on peut distinguer deux phases au cours de ces deux maladies. La

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première est *prodromique* avec les caractéristiques suivantes: fatigue, lassitude, anorexie, céphalée, nausées avec ou sans vomissement, malaise abdominal; la leucopénie est habituelle. Au bout de quelques jours la fièvre tombe et la *jaunisse* apparaît; l'on retrouve alors de la bile dans les urines.

Le second stade est de durée variable. Occasionnellement s'ensuivent la cirrhose ainsi que des troubles fonctionnels du foie; la convalescence est souvent très longue . . . La gravité est très variable: elle peut aller de l'infection bénigne sans jaunisse jusqu'aux rares cas fulminants d'atrophie jaune aiguë du foie qui est habituellement mortelle.

NATURE DU VIRUS

Le virus de l'hépatite sérique est un *congénère* de celui de l'hépatite infectieuse . . . On les distingue l'un de l'autre, même s'ils causent des maladies à peu près semblables parce qu'ils ne présentent *pas d'immunité croisée* (c'est-à-dire que l'infection par l'un de ces virus n'immunise pas contre l'autre).

C'est le virus le *plus résistant* actuellement connu. Ainsi il peut survivre à l'état congelé pendant plusieurs années et à la dessiccation durant un an à la température de la pièce. Il n'est pas détruit par une heure de séjour à 56° C (132 F) et il résiste au antiseptiques énergiques tels que l'alcool, l'éther, le phénol et le trichlorol.

MODE DE TRANSMISSION

Le virus de l'hépatite sérique ne se trouve que dans le sang de l'espèce humaine. On ne peut en effet le transmettre aux animaux. Il a de plus la particularité d'être absent des voies de sortie de l'organisme: on ne le retrouve pas par conséquent dans les voies respiratoires et dans les fèces. C'est ce qui fait qu'il ne peut être transmis par contact. Il l'est uniquement par inoculation du sang d'une personne à une autre.

L'on distingue donc deux modes de transmission:

1—Par l'injection de sérums humains

a—lors d'une transfusion, d'une injection

de plasma desséché ou de sang conservé.

b—lors d'injection de sérum de convalescent pour la rougeole, la coqueluche, les oreillons.

2—Par des injections ou des actes chirurgicaux avec des instruments non stérilisés.

C'est cette deuxième éventualité qui nous intéresse particulièrement. L'épidémie survenue à Chateauroux, France, en donne une bonne démonstration. Un guérisseur pratiquait des injections intraveineuses d'un certain médicament à ses patients. Peu soucieux de la stérilisation, il se contentait de rincer sa seringue à l'eau du robinet. Il a ainsi transmis l'hépatite sérique à 70 personnes dont 14 sont mortes.

Il est à noter que certaines personnes restent porteuses du germe de l'hépatite après avoir fait la maladie; d'autres deviendront aussi porteuses même si elles n'ont pas présenté une attaque clinique précise. On a déjà fait la constatation que des donneurs de sang ont infecté des lots de sang au cours de 3 années consécutives. Il va de soi qu'après avoir pratiqué une injection ou exercé une chirurgie chez de tels patients, on peut inoculer à une autre personne le virus si la stérilisation est inadéquate.

Le malade infecté peut l'être pendant une longue période. Des expériences ont démontré que le virus se trouvait dans le sang de volontaires inoculés de cet agent infectieux longtemps avant l'apparition des symptômes. On établit d'ailleurs la période d'incubation à 2 et même 6 mois; et en général le virus persiste dans le sang 2 à 3 mois après la maladie.

RÉCEPTIVITÉ

Comme la période d'incubation est très longue et la persistance du virus dans le sang après la maladie assez marquée, comme, de plus, certaines personnes restent porteuses de germes après la guérison, les possibilités de transmission sont fréquentes . . . "Ainsi l'incidence de l'hépatite sérique chez les receveurs de dérivés du sang, fabriqués à partir de banques de

sang, varie de 2 à 15% . . . et parmi les receveurs de plasma connus comme étant ictero-géniques elle est aussi élevée que 60%."

DIAGNOSTIC

Il n'existe pas de tests sérologiques spécifiques permettant l'identification du virus. Pour avoir la certitude que l'on est en présence d'un cas d'hépatite sérique et non infectieuse, il faut établir l'absence d'infection survenant dans l'entourage et une histoire d'injection de produits dérivés du sang 2 à 6 mois auparavant ou l'anamnèse d'une intervention chirurgicale ou d'une injection quelconque. Le diagnostic est complété par une biopsie du foie et les tests de la céphaline-cholestérol et de la turbidité du thymol.

Différence entre l'hépatite sérique et l'hépatite infectieuse

Même si le tableau clinique est semblable, chacune de ces maladies a tout de même ses particularités.

	hép. sérique	hép. infectieuse
Incubation	Plus longue (2 à 6 mois)	10 à 40 jours.
Transmission	Inoculation	Voies respiratoires Selles
Age	Tout âge Plus grange chez adultes	En bas de 30 ans. Diminue avec l'âge
Mortalité	.2 à 21% Moyenne: 6 à 12%.	.2 à .5%
Injection I.M. à la Gamma- globuline	Aucun résultat	6 jours avant l'apparition des symptômes —très bons résultats.

TRAITEMENT

Il n'existe aucun traitement spécifique contre l'hépatite sérique. Il s'agit alors de soutenir le patient en surveillant l'acidose, l'état de choc, l'hypoglycémie et la déshydratation. L'alimentation par intubage (dans le jéjunum) peut être nécessaire lorsque les vomissements sont prononcés. On donne des transfusions dans les cas où l'anémie, l'hémorragie ou l'état de choc sont marqués. On a constaté dernièrement que le traitement simultané à la cortisone et aux antibiotiques apportait des résultats chez certains malades.

PROPHYLAXIE

Il n'existe aucune méthode technique assurant la destruction du virus de l'hépatite sérique dans le sang infecté. Le

traitement du sang par les rayons ultraviolets est depuis quelque temps discontinué à cause de son inefficacité.

Les mesures prophylactiques en ce qui a trait aux transfusions sont les suivantes:

- 1—L'exclusion des donneurs de sang ayant fait une hépatite antérieurement.
- 2—La limitation de l'administration de sérum ou de plasma provenant de banques de sang aux cas où il y a vraiment nécessité ou utilité à le faire.
- 3—L'emploi de substituts du sang lorsque c'est possible, comme l'albumine humaine et le dextran.

Pour ce qui est des instruments contaminés, aiguilles, daviens et autres, nous avons vu que la stérilisation à froid ne détruisait pas le virus, puisqu'il résiste aux antiseptiques les plus violents . . . La ligne de conduite du dentiste se trace d'elle-même: il faut employer la stérilisation minutieuse à la chaleur, de préférence à l'autoclave. La stérilisation à l'eau bouillante doit être d'au moins 15 minutes; d'autres auteurs affirment 30 minutes. Auparavant il faut débarrasser les instruments de toute trace de sang, de préférence avec une brosse et du savon. A la suite d'une injection, il pénètre souvent du sang dans l'aiguille (même si l'on ne fait pas d'aspiration); il est donc à propos de ne pas injecter le contenu de la carpule au complet mais de garder quelques gouttes de l'anesthésique qui serviront à chasser le sang de l'aiguille après l'injection. La stérilisation sera alors plus facile.

Le dentiste qui donne des injections à la journée longue ne peut se permettre d'employer une aiguille ayant déjà servi pour un autre patient sans une stérilisation à chaud adéquate. S'il se soustrait à cette pratique, il risque fort de transmettre à ses patients une maladie dont le taux de mortalité est de 6 à 12%. C'est un cas de conscience . . . L'argument suivant est à mon sens sans valeur: "J'ai pratiqué pendant tant d'années, me servant de la stérilisation à froid, sans jamais infecter personne." C'est une affirmation cavalière qui cependant ne dissipe pas tout doute. Les troubles du foie sont très nom-

breux; si, de l'avis des virologistes, le diagnostic précis, basé sur une histoire de cas et des tests de laboratoire, en était toujours clairement établi, l'on serait surpris de constater le nombre relativement élevé d'hépatites sériques. Jusqu'à quel point le dentiste en est-il responsable?

Une enquête menée par F. E. Foley et R. N. Gutheim à l'Hôpital Général de Rochester du 1 juin 1953 au 31 mai 1955 apporte des éclaircissements à ce sujet. Sur 57 cas d'hépatite virale, 7 étaient des hépatites sériques contractées à la suite de transfusions de sang ou de plasma. Des 50 qui restaient, 15 au minimum avaient reçu une injection dentaire 1 à 6 mois auparavant. Il est à remarquer que le diagnostic était basé sur l'histoire de cas: non présence de contact avec un malade d'hépatite infectieuse, intervention dentaire, incubation de 1 à 6 mois. La maladie de 3 de ces 15 personnes a eu une issue fatale.

Pour fin de comparaison l'on a établi l'histoire dentaire (visite chez le dentiste dans les 6 mois précédents) de 2 groupes respectivement de 68 et de 50 patients admis à l'Hôpital Général de Rochester.

Dans chacun des groupes 3 personnes seulement avaient subi des traitements dentaires au cours des 6 mois antérieurs.

L'incidence d'injections dentaires dans le groupe d'hépatiques est donc de 5 à 7 fois supérieure à celle du groupe contrôle.

Un autre facteur qui marque la relation entre les injections dentaires et l'hépatite sérique est le fait qu'un certain nombre de ces malades avaient un dentiste commun.

L'étude de Foley et de Gutheim confirme donc malheureusement l'existence et la fréquence de la transmission de l'hépatite sérique par le dentiste. A nous de surveiller nos méthodes d'antisepsie.

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VIENT DE PARAÎTRE

"Pharmacologie et Pharmacothérapie Dentaire," tel est le volume du Dr O. Noeppel que les Editeurs Masson et Cie viennent de publier. Voilà enfin un vide comblé dans la littérature médicale française. De bonne présentation, facile de référence, très à date, cet ouvrage témoigne du souci de l'auteur d'atteindre à un traité qui soit utile à l'étudiant de même qu'au praticien. L'étudiant y trouvera sans peine et d'une façon agréable tout ce qu'il lui faut pour s'initier; le praticien soucieux d'évaluer et de choisir aura en sa possession un instrument capable de l'orienter dans le choix de ses thérapeutiques.

L'auteur a su ramasser une énorme variété de médicaments dépassant peut-être un peu les cadres de la Dentisterie, — les grouper chacun selon sa catégorie, en donner clairement la description et l'usage et quand même aboutir à un volume de petit format. C'est une réussite et nous félicitons le Docteur Noeppel. Nous espérons que ce Précis soit remis à jour chaque fois que l'évolution rapide de la thérapeutique l'exigera.

Henryk Silbert.

Application de l'endodontie en pédodontie

par ROBERT BOUCHER, B.A., D.D.S., Joliette, P. Qué.

L'éducation du public dans le domaine dentaire se fait de plus en plus par le dentiste, les publications, la radio et la télévision. Et cette éducation doit toujours nous préoccuper, car c'est là que commence notre traitement pour ainsi dire, c'est là qu'il sera le plus efficace et le plus sûr, c'est-à-dire: avant même que le mal ne se produise. C'est aussi l'avis du Docteur Easlick qui disait: "The best pulp management in all children's dentistry is preventive operative dentistry begun early and continued regularly."²

Election entre extraction et endodontie

Il reste cependant que nous sommes en face d'un certain nombre de causes plus ou moins inévitables les unes que les autres et qui produisent chez nos patients de fréquentes expositions de pulpe qui nécessiteront de notre part une intervention. En face de tels cas, quelle devra être notre attitude?

Plusieurs dentistes ne tenteront même pas de traitement ou bien encore choisiront le traitement le plus radical: l'extraction. En d'autres cas, par ailleurs, connaissant très bien la nécessité de conserver l'intégrité de l'arcade dentaire, ils laisseront en place des dents temporaires infectées dans le but de maintenir l'espace pour les permanentes. Une chose est certaine, c'est qu'une dent infectée ne peut pas être conservée comme telle. Elle peut causer de la douleur, la perte de l'appétit et plusieurs autres malaises d'ordre général. Notre première considération devra être l'élimination de l'infection et, pour cette raison, il nous faudra extraire la dent et utiliser un appareil pour maintenir l'espace suffisant pour l'éruption de la dent permanente. Notre traitement doit être envisagé de façon qu'il ait pour but non seulement la conservation d'un organe de

mastication absent de douleur et de symptômes inflammatoires locaux, mais aussi un organe qui ne deviendra pas une source possible de maladie constitutionnelle.³

Il ne faut pas, de prime abord, rejeter ou accepter de façon catégorique l'extraction ou le traitement. L'élection entre les deux doit se faire d'une façon raisonnée et convenable en se basant sur les différents critères qui déterminent nos chances de succès ou d'insuccès pour le traitement. Or, ces critères de succès ou d'insuccès ne tiennent pas d'une façon similaire pour les deux dentures. En effet, les temporaires ont un avantage physiologique marqué à cause de la quantité plus considérable de sang amené par la circulation chez les enfants; la défense et la résistance de l'organisme étant augmentées, nos chances de succès le seront d'autant.

Voici, selon Brauer, les dents temporaires qui se prêtent mal aux traitements d'endodontie et qui de ce fait ne sont pas recommandables pour ce traitement:

- "1—Lorsque les racines sont presque toutes résorbées et que la dent permanente est prête à assumer sa position dans l'arcade.
- 2—Lorsque la dent permanente est suffisamment développée pour maintenir les forces d'occlusion ou de mastication et lorsque le développement dans ce segment de l'arcade serait entravé par la rétention de la dent temporaire.
- 3—Lorsque la rétention de la dent ne serait pas en harmonie avec l'occlusion ou le développement de l'arcade.
- 4—Lorsque la santé de l'enfant est pauvre et que sa résistance à l'infection serait basse.
- 5—Lorsque la carie a pénétré jusqu'à la bifurcation des racines.
- 6—Lorsqu'il y a un abcès périapical autour d'une dent qui montre une résorption pathologique de racines ou de l'os environnant.

7—Lorsqu'il y a du pus dans la chambre pulpaire.

8—Lorsqu'une résorption interne des racines est évidente."³

En dehors des cas énumérés plus haut, Brauer soutient que tout traitement d'endodontie devrait être tenté et qu'au delà de 75 pour 100 des cas devraient être susceptibles de réussir. Pour notre part, les trois dernières causes ne nous semblent plus valables aujourd'hui. Même dans les cas d'abcès périapical, de pus dans la chambre pulpaire, il est possible d'entreprendre un traitement et d'en obtenir d'excellents résultats.

Lorsqu'un traitement d'endodontie offre des possibilités de succès, nous pouvons l'envisager de différentes façons:

- 1—Coiffage de pulpe,
- 2—Pulpotomie $\begin{cases} \text{vitale,} \\ \text{dévitalisée} \end{cases}$
- 3—Pulpectomie

Ce qui doit nous guider dans l'utilisation de ces différentes méthodes, c'est surtout l'état de destruction de la dent en cause. Voyons à quel moment nous pouvons employer ces différentes méthodes, de quelle façon on doit le faire et les résultats que nous pouvons en obtenir.

C—Coiffage

En clientèle active, le dentiste a souvent à faire face à de sérieux problèmes lorsque survient une exposition de la pulpe. S'il semble évident que la chambre pulpaire ait été envahie par des micro-organismes, il optera pour l'ablation partielle ou complète de la pulpe. Mais si l'exposition survient à la suite d'une mauvaise technique ou bien encore si cette exposition est causée par de la carie et si la chambre pulpaire ne semble pas avoir été envahie par des bactéries pathogènes, en ce cas, un coiffage de pulpe peut alors être tenté. En effet, Bernard, Marmasse, Macler, Zander et Closs sont tous d'accord pour dire "qu'une pulpe blessée dans des conditions aseptiques peut se régénérer et guérir parfaitement s'il reste un tant soit peu de circulation sanguine dans son organe."

Rosenstein prétend qu'on peut obtenir même une excellente régénérescence sur

les dents temporaires et les jeunes permanentes, même si l'exposition est faite par de la carie.⁴

Coolidge Hogeboom et Grossman ne recommandent l'emploi du coiffage que dans les cas d'exposition accidentelle.⁵ Il semble qu'ils soient appuyés par Curly en ce sens: "Le coiffage de pulpe, la forme la plus simple d'un traitement de pulpe, est pratiqué depuis au delà de cent ans. Cependant, son emploi est restreint et sa réussite ne peut être garantie que par un choix de cas judicieux où la pulpe est saine."⁶

Quant à nous, nous croyons qu'à la condition d'observer un certain nombre de règles, nous pouvons réussir un coiffage non seulement d'expositions accidentelles mais aussi à l'occasion d'expositions par la carie.

Avant d'entreprendre un coiffage de pulpe, on devrait s'assurer que les examens cliniques et radiographiques se montrent favorables à ce traitement. Un test de vitalité devrait d'abord être fait; la dent, en effet, doit, en tout premier lieu, être vivante. La radiographie nous renseignera sur les conditions apicales de la dent et aussi sur la profondeur de la cavité et de l'exposition. Enfin, l'examen clinique se fera au cours même du traitement. Lors de l'exposition, une hémorragie devra se produire en quantité suffisante et le sang provenant de cette hémorragie devra offrir une bonne garantie de qualité, c'est-à-dire quant au point de vue couleur et consistance.

Rosenstein et Tanenbaum rapportent une étude sur le coiffage avec la $\text{Ca}(\text{OH})_2$ et l'oxyde de zinc et l'eugénol. Ils ont obtenu 90 pour 100 de succès, ce qui nous semble excellent comme résultat. Nous voulons donc exposer leur façon de choisir les cas et la technique à utiliser pour le traitement. Voici les conditions exigées:

- 1—Légère hémorragie au point d'exposition.
- 2—Sensibilité de la pulpe à l'explorateur (ou test de vitalité).
- 3—Absence de nécrose.
- 4—Conditions apicales normales.
- 5—Enfant en bonne santé.
- 6—Histoire de la dent: aucune douleur interne ou spontanée.

Lorsque toutes ces conditions sont présentes, nous procédons de la façon suivante:

Il faut d'abord éviter la pénétration de salive dans la cavité, ce qui donne à la digue une très grande valeur. L'instrumentation utilisée doit être aussi stérile que possible. La carie est enlevée et une hémorragie provoquée avec les conditions précitées. La cavité est nettoyée, lavée au peroxyde d'hydrogène, puis asséchée. Nous sommes alors prêts pour le coiffage. Remarquons en passant qu'à ce stage, certains auteurs préconisent une stérilisation, soit avec de l'alcool (50 pour 100)⁸ ou bien encore avec du phénol.⁹

On place alors une pâte à l'hydroxide de calcium sur la partie exposée et sur la partie de dentine en direction de la pulpe et on utilise un oxyphosphate, comme reconstitution, en évitant de faire pression en direction de notre ouverture. La dent est bien scellée et mise sous observation pour environ trois semaines. Si la douleur demeure absente, on insère notre matériel obturateur.

Différents médicaments peuvent être utilisés pour le coiffage lui-même. McBride cautérise purement et simplement avec un instrument chaud. Hogeboom emploie l'oxyde de zinc et le formocresol. Easlick utilise comme poudre de l'hydroxide de calcium, du nitrate d'argent en partie égale avec du baume du Canada. Comme liquide, de l'huile de clou. Brauer préconise l'oxyde de zinc et l'eugénol. Rosenstein, Zander et Law, pour leur part, recommandent l'hydroxide de calcium $\text{Ca}(\text{OH})_2$; ils soutiennent que c'est un antiseptique doux, favorable à la guérison, que la pulpe supporte bien; que cette pulpe réagit de façon à former un pont calcifié partout où le médicament vient en contact avec les cellules odontoblastiques.¹⁰

Renaud appuie fortement cet avancé sur des résultats cliniques et favorise d'emblée lui aussi, l'emploi de l'hydroxide de calcium.¹¹

D—Pulpotomie

Le coiffage est un traitement très convenable. Cependant, en certains cas plus

avancés, il serait osé, même risqué de le tenter; si l'exposition est immense, qu'une grande partie de la couronne soit détruite ou bien encore si les tissus de la chambre pulpaire paraissent dans des conditions physiologiques déficientes, il faut tenter une pulpotomie.

La pulpotomie consiste en l'ablation partielle ou complète de la partie coronaire de la pulpe.

On comprend aisément pourquoi on doit employer la pulpotomie plutôt que le coiffage. Mais pourquoi tenter ce traitement conservateur plutôt que la pulpectomie? "Parce que le meilleur remplissage de la chambre pulpaire est le tissu vivant."¹² En outre, la pulpotomie est plus facile à réaliser que la pulpectomie et elle donne de très bons résultats.

Pour cette technique (tout comme pour le coiffage d'ailleurs), on conçoit facilement que l'anesthésie soit de rigueur. Le champ opératoire doit être maintenu très sec, à l'abri de toute infiltration salivaire durant toute la durée de l'opération. Toute l'instrumentation doit être stérile. La carie est enlevée avec des fraises ou des curettes, de même la partie gangrenée de la pulpe.

Qu'il s'agisse d'une pulpotomie partielle ou complète, une partie seulement de la pulpe ou bien toute la pulpe jusqu'à l'ouverture des canaux radiculaires est enlevée. Les critères qui nous feront opter pour une pulpotomie partielle ou complète sont uniquement cliniques. Et c'est uniquement au cours de l'opération elle-même que le choix se fera. Il est nécessaire de curetter jusqu'à ce qu'une hémorragie assez abondante se produise et que le sang soit jugé de bonne qualité. A ce moment, l'hémorragie peut être finalement contrôlée par l'application locale d'adrénaline.

A ce stage, les opinions diffèrent. Un certain nombre d'auteurs considèrent la pulpotomie comme un simple coiffage pour ce qui est des médicaments et soutiennent que l'hydroxyde de calcium remportent le plus de succès.¹³ Ils nettoient, lavent au peroxyde, assèchent avec de l'air chaud ou des cotons stériles. Puis le médicament, en l'occurrence l'hydroxyde de calcium, est mis

en place sur la pulpe qui reste ou bien à l'ouverture des canaux radiculaires, s'il s'agit d'une pulpotomie de toute la partie coronaire. Ils placent un ciment temporaire pour environ six semaines, c'est-à-dire jusqu'à l'obtention d'un pont calcifié de dentine secondaire.

Sweet,¹⁴ pour sa part, utilise cette dernière méthode sur les jeunes dents permanentes, mais se refuse à l'appliquer sur les dents temporaires. L'hydroxyde de calcium activerait, selon lui, l'action des ostéoblastes et des ostéoclastes déjà en grand nombre dans ces pulpes, favorisant de façon intense, la résorption interne des racines. Il préfère employer une technique dévitalisante.

Contre-indications:

- Racines résorbées aux deux tiers
- Mobilité anormale de la dent
- Présence de pus
- Carie ou infection à la bifurcation des racines.

Règles:

- Pulpe vivante avant le traitement
- Aseptie du champ opératoire
- Ouverture suffisante
- Médicaments puissants pour destruction des bactéries.

Le traitement se fait en trois séances et dure en tout de huit à dix jours.

a) Premier rendez-vous:

Sa technique est la même que la précédente jusqu'à l'application des médicaments. A ce moment, il emploie un mélange de formaldehyde, créosote et de paramonochlorophénol. Il place un ciment oxyde de zinc eugénol pour trois à cinq jours.

b) Deuxième rendez-vous:

Il scelle un mélange de beachwood et créosote sur la pulpe, oxyde de zinc eugénol pour trois à cinq jours.

c) Troisième rendez-vous:

Il applique une pâte d'oxyde de zinc et eugénol contenant du créosote et de la formaldehyde sur la pulpe. Reconstitution et amalgame.

Nacht¹⁵ préconise une technique semblable. Les médicaments employés sont:

- liquide: phénol, formaline, créosote et thymol.
- poudre: iode, paraformaldehyde.

Il applique une pâte d'oxyde de zinc et ne rapporte que 30 pour 100 d'échecs. Il note la perte de la dent après deux ans environ mais par contre, une éruption plus hâtive de la dent permanente. Et il soutient que sa technique permet de maintenir en place pour quelque temps encore une dent vouée à l'extraction.

La pulpotomie est praticable sur les dents temporaires et les jeunes dents permanentes. A noter que le succès de ce traitement ne dépend que du choix judicieux des cas. Malgré tout, nous pouvons nous attendre à des échecs. Citons le cas d'illustres praticiens qui affirment même que la pulpotomie sur les jeunes dents permanentes n'est qu'une mesure temporaire. L'utiliser sur une dent adulte dont l'apex est complètement terminée serait une grave erreur et presque l'assurance d'un échec radical.

E—Pulpectomie

Coiffage et pulpotomie sont des traitements convenables pouvant nous rendre d'immenses services. Cependant, ils seront insuffisants en certains cas et alors nous devons avoir recours à la pulpectomie, c'est-à-dire à l'ablation complète de la pulpe jusqu'à l'ouverture apicale.

Un bon nombre de dentistes, à l'heure actuelle, acceptent assez bien l'idée de faire des coiffages même des pulpotomies chez les enfants. Mais plusieurs craignent d'entreprendre un traitement complet de la pulpe. Il est vrai que ce traitement peut présenter un peu plus de difficultés et parfois aussi quelques complications. L'enfant est généralement appréhensif et souvent n'accepte pas de coopérer facilement avec le dentiste. L'idée de faire une pulpectomie sur une dent dont les racines sont plus ou moins résorbées ne doit pas nous apparaître non plus comme étant plus difficile.

La radiographie en ce cas est presque indispensable:

- Pour les dents temporaires, elle nous aidera à déterminer le temps que la dent doit demeurer en place.
- Elle nous renseignera sur les conditions périapicales.

- c) Enfin, elle nous permettra d'établir la condition de la dent et des canaux radiculaires.

Quelles sont les dents qui nécessiteront ce traitement?

- a) "Les dents vivantes sans évidence de destruction périapicale. Dans ce cas, la carie a progressé si loin que la pulpe est définitivement infectée et qu'on a peu de chance de succès avec la pulpotomie.
- b) "Les dents non vivantes avec destruction périapicale. La présence d'abcès n'est pas une contre-indication au traitement, à la condition que la région affectée soit accessible pour l'application des médicaments."¹⁹

Que la dent soit morte ou qu'elle réponde encore à un certain degré de vitalité, il faut toujours s'assurer une bonne anesthésie. En approchant l'apex avec nos instruments, bien que la dent soit morte, le patient peut en effet ressentir de la douleur, ce qui peut entraver le nettoyage mécanique et de là toute la marche du traitement. Puis la dent sera isolée au moyen de la digue et badigeonnée avec du métaphène décoloré.

Ceci dans le but d'opérer dans un champ opératoire le plus stérile possible. La dent est alors ouverte et la chambre pulpaire est exposée. On enlève au moyen de curettes et de limes toute la pulpe et les débris de pulpe contenus dans la chambre pulpaire et dans les canaux radiculaires. Ensuite, on peut laver avec de l'hypochlorite de soude (zonite). Son action est de laver mécaniquement et d'agir comme antiseptique. On assèche alors avec des pointes de papier et on peut insérer dans le canal, soit du P.B.S.C., soit du P.M.C.-P.C. Tous les deux ont une action germicide et agissent sur les bactéries qui peuvent se trouver à l'intérieur du canal.

Pour sa part, le P.B.S.C. est un composé d'antibiotiques: pénicilline, streptomycine, bacitracine dont la mise au point a été faite par Grossman. Quant au P.M.C.P.C., c'est un composé chimique germicide.

Lors de la deuxième séance (48 heures après au minimum, pour permettre l'ac-

tion des médicaments): la digue est mise en place et la dent est ouverte. On enlève les médicaments contenus dans les canaux. Si on prévoit que le nettoyage mécanique de la première séance puisse être insuffisant, on le poursuit. On lave encore au zonite, on applique nos médicaments encore une fois et on referme à nouveau.

Ce qui importe le plus au cours de ces séances est sans contredit le nettoyage mécanique. Il faut s'assurer d'abord et avant tout que la pulpe et les canaux soient libérés de tous débris pouvant favoriser l'accroissement et le développement des bactéries. Ce que nous recherchons en effet par ce traitement est l'obtention d'une chambre pulpaire et de canaux absolument aseptiques. Easlick (1943) dit lui-même que "le seul critère de succès est l'absence de bactéries pathogènes."

Dans le but de s'assurer complètement l'aseptic, une prise de culture peut être faite à chaque séance. Le traitement peut alors se poursuivre jusqu'à l'obtention d'une culture négative. Ceci est très avantageux mais n'est pas indispensable. La plupart des dentistes qui font des traitements de canaux ne font pas de prises de culture et dans la grande majorité des cas, ces traitements réussissent très bien. La prise de culture n'est pas un traitement en elle-même; elle n'est qu'un simple moyen de contrôle.

Lors de l'obtention d'une culture négative ou encore lorsque le dentiste obtient une quasi-certitude de stérilité du canal, il doit procéder à l'obturation finale.

Encore une fois, la dent est isolée au moyen de la digue et badigeonnée avec de l'iode ou du métaphène décoloré. La dent est ouverte et les canaux sont libérés des médicaments qu'ils contiennent. Ils sont bien asséchés avec des pointes de papier absorbant et le matériel obturateur inséré.

Certains auteurs, dont Gerlack, préférèrent obturer le canal avec un matériel non résorbable (*gutta percha*), après que le canal a été suffisamment élargi. Ceci est

dans le but d'obtenir un scellement très hermétique à l'apex. Lorsque la dent est appelée à disparaître, il enlève à ce moment les pointes de gutta percha.

Par ailleurs, Hogeboom, McBride, Brauer et la plupart des autres opérateurs préconisent l'emploi d'un matériel qui se résorbe avec la dent, tel que l'oxyde de zinc et l'eugénol ou l'hydroxide de calcium.¹⁰

Cette technique est favorisée d'emblée et nous semble aussi la meilleure. En effet, la présence des pointes de gutta percha dans les tissus peut amener des complications en agissant comme corps étranger.

Tout au cours de ce traitement, il est trois choses auxquelles il faut porter une attention toute spéciale:

- 1—Eviter de dépasser l'apex de façon mécanique avec les instruments.
- 2—Obtenir une excellente stérilisation. A cette fin, surveiller étroitement le nettoyage mécanique.
- 3—Bien remplir les canaux de façon à obtenir un scellement le plus hermétique possible.²⁰

Pour ce qui est de la pulpectomie sur les jeunes dents permanentes, nous traiterons le sujet en parlant des fractures.

F—Fractures

Les fractures peuvent se présenter de différentes façons, c'est-à-dire la fracture peut se produire à des niveaux différents:

- a) Au tiers occlusal
- b) Au centre de la couronne
- c) Au collet de la dent
- d) Dans le corps même de la racine.

Au tiers occlusal, la pulpe est alors très légèrement exposée. En ce cas, un simple coiffage peut être fait avec une restauration: jacket crown ou incrustation. Ceci à la condition que la fracture soit récente et que la pulpe ne soit pas infectée depuis ce temps. Comme généralement il y a toujours un certain délai entre le temps de la fracture et le recours au dentiste et qu'on puisse réellement douter de l'intégrité de

la pulpe, il vaut mieux procéder à une pulpotomie.

La pulpotomie peut se pratiquer sur les dents qui, malgré la fracture, conservent une partie coronaire suffisamment étendue pour nous permettre une restauration coronaire, c'est-à-dire incrustation ou couronne. Elle peut donc être employée dans les fractures allant jusqu'à la moitié de la couronne.

Cette méthode est la plus recommandable et on peut dire lorsqu'elle est possible, c'est la méthode de choix parce que:

- a) L'amputation aseptique d'une partie de la pulpe peut éliminer le tissu infecté originalement par la fracture.
- b) La pulpotomie ne comprend pas les racines, permettant ainsi de conserver la dent vivante. Le maintien de la vitalité de la pulpe permettra la formation complète de la racine et, de là, les racines étant complètement formées, une meilleure restauration tant au point de vue esthétique que fonctionnel.²¹

La pulpotomie est supérieure au coiffage dans un cas de fracture. Elle élimine de façon certaine les bactéries qui pourraient avoir envahi la chambre pulpaire. Elle lui est aussi supérieure en ce qu'elle permet aux tissus non seulement leur propre survivance mais une calcification dentinaire, favorisée par le stage embryonnaire de la pulpe et la grande quantité de sang amené par la circulation.

Lorsque la pulpe est définitivement infectée et que parfois même une manifestation est apparue à l'apex, ou bien encore si la fracture s'est produite au collet de la dent, une pulpectomie s'impose. Les difficultés les plus appréciables sont d'abord d'obtenir un bon nettoyage mécanique et un canal bien sec. Les canaux allant en s'élargissant à l'apex, l'accès au moyen des limes est difficile.

Il existe aussi le danger de pousser des pointes de papier et de les perdre dans le canal lors de l'application des médicaments. Enfin, pour obturer, il faut prendre toutes les précautions pour ne pas dépasser l'apex. Généralement, on utilise les pointes de gutta percha introduites à

l'inverse, c'est-à-dire le bout le plus gros en direction de l'apex.

Quelques dents nous amènent des complications sérieuses. Certaines racines possèdent un apex dont la courbure est accentuée. En certains cas, cette courbure nous rendra difficile, même impossible, tout accès mécanique. Deux méthodes sont alors à notre disposition:

- a) L'apectomie.
- b) L'ionophorèse.

C—L'apectomie

L'apectomie est utilisée dans les cas d'infections périapicales lorsque le traitement de canal s'avère sans aucun succès: abcès, kystes, granulomes ou encore apex recourbé. Elle consiste en l'ablation d'une partie de la racine en même temps que de la partie périapicale infectée. Jointe à une excellente stérilisation du canal, elle donne d'excellents résultats.

H—L'ionophorèse

L'ionophorèse, pour sa part, est actuellement sujet à de grandes controverses. Plusieurs nient son efficacité et d'autres s'en servent couramment. Un jour, sans doute, la lumière se fera sur le sujet. Certains sont d'avis cependant qu'elle puisse nous rendre de grands services dans les cas de canaux inaccessibles et même dans les cas d'infections apicales. Peut-être bien qu'un jour elle rendra désuètes nos méthodes d'apectomie.

Conclusion

Nous connaissons l'importance d'une bonne et saine dentition en tant que facteur de santé générale. La bouche est la porte d'entrée du système gastro-intestinal et nous connaissons la relation étroite qui existe entre la mastication, la digestion et l'absorption des aliments.

L'esthétique, par ailleurs, joue souvent un rôle assez important dans la vie de plusieurs personnes. Nous n'irons pas jusqu'à prétendre, quoique certains psychiatres le rapportent, que des gens puissent rater leur vie à cause de la perte d'une dent. Ce serait considérer le problème

avec des extrêmes. Il nous faut cependant, tenir particulièrement compte du facteur esthétique chez un bon nombre de nos patients qui ont un rôle social particulier à remplir.

Éliminer l'infection, rétablir la fonction, conserver l'esthétique, voilà le but de nos traitements d'endodontie.

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Nouvelles de l'Association

Echos du Congrès de Montréal

Le Congrès de Montréal a établi un nouveau record d'assistance: 1926 personnes s'y sont enregistrées.

Le docteur George M. Dewis, Halifax, a été intronisé comme président de l'A.D.C. pour l'année 1958-1959 et il présidera le Congrès de Halifax, au mois de juin.

Le docteur Wesley J. Langmaid, Oshawa, a été nommé président-élu.

Le docteur G. Guelf Armitage a reçu un diplôme de membre honoraire de l'Association.

Des portraits à l'huile ont été présentés au docteur Ernest Charron, ancien doyen de la faculté de Chirurgie dentaire de l'Université de Montréal et à l'ancien directeur des services dentaires, C.R.D.C., le Brigadier Elgin M. Wansbrough. La peinture du docteur Charron ornera les murs de la faculté de l'Université de Montréal et celle du Brigadier Wansbrough, à l'Ecole du Camp Borden, Ontario.

Le docteur Wesley J. Dunn, rédacteur démissionnaire du Journal, a reçu en souvenir un plateau d'argent gravé.

Le Conseil des Gouverneurs a adopté une résolution chargeant l'Exécutif d'informer les membres corporatifs (Collèges provinciaux) des besoins de l'Association, nécessités qui l'obligeront à dépenser plus d'argent dans l'avenir.

Le Conseil des Gouverneurs a passé une résolution demandant de continuer et d'accentuer les relations de l'A.D.C. avec les organismes internationaux.

L'Académie canadienne de Périodontologie a été acceptée comme Section de l'A.D.C. et les périodontistes ont été reconnus comme spécialistes.

On a approuvé la recommandation que les secrétaires provinciaux se réunissent tous les ans au secrétariat de l'Association.

Le Conseil a approuvé le principe d'obtenir une charte fédérale créant une corporation pour diriger les plans de santé dentaire, en laissant aux provinces les questions de politique à ce sujet.

On a adopté une résolution priant les membres corporatifs de faire passer des lois pour que des dentistes qualifiés puissent faire admettre et traiter des patients dans les hôpitaux sous le Plan national d'Assurance-Hospitalisation.

Le Conseil a approuvé une résolution demandant de réitérer l'appui de l'Association en faveur de la fluoruration.

On a approuvé une résolution demandant à l'Exécutif d'étudier la possibilité de s'adjoindre du personnel administratif, tout particulièrement dans les domaines légal et économique.

Bulletin d'hygiène dentaire

Le volume 1, No 1 de cette publication est daté de l'automne 1958. Cette initiative de la Division dentaire du Ministère de la Santé nationale et du Bien-Etre social devrait réjouir tous ceux qui s'occupent d'hygiène dentaire, car ce Bulletin leur transmet périodiquement les nouvelles d'hygiène dentaire de tout le pays.

Le docteur H. K. Brown est le consultant dentaire de cette division. Mlle Helen Marsh est la rédactrice et le docteur H. R. McLaren est directeur du bureau de rédaction. Nos sincères félicitations pour ce premier numéro.

Nouveau membre du Conseil

Le Collège de la province de Nouvelle-Ecosse annonce qu'il a nommé le docteur P. S. Christie, Halifax, son représentant au Conseil des Gouverneurs de l'A.D.C.

Cette représentation devient nécessaire à cause de l'élection du docteur George Dewis à la présidence de l'Association.

Pour et contre la fluoruration

Un référendum tenu récemment à Prince Albert, en Saskatchewan, a voté en faveur de la fluoruration par une majorité de 3,214 contre 2,952. Ceux qui se sont opposés à cette mesure ont déclaré qu'ils n'ont pas encore dit leur dernier mot et qu'elle est loin d'être en force.

A Regina, les voteurs ont refusé la fluoruration par 12,484 contre 11,869. Ces deux plébiscites ont eu lieu conjointement avec les élections municipales.

La ville de Philadelphia annonce que la carie a diminué de 50 %

Le 22 septembre 1958, qui marquait le quatrième anniversaire de la mise en vigueur de la fluoruration à Philadelphie, le docteur James P. Dixon, M.D., qui est directeur du Service de Santé, a annoncé que la carie avait diminué de 50% dans les dents permanentes des enfants des écoles et qu'il y avait moins d'extractions dans une proportion de 43%.

"Les autorités en hygiène publique disent qu'il faut attendre six ans avant de bénéficier de la fluoruration de l'eau," a dit le docteur Dixon, "mais nous avons décidé de nous rendre compte des résultats de cette mesure après seulement quatre ans et d'en faire part au public. Nos résultats sont réellement étonnants."

Ces conclusions se basent sur des examens entrepris chez 17,617 écoliers de six ans, en 1954-1955, en comparaison d'examens faits chez 21,834 enfants du même âge en 1957-1958.

"La fluoruration coûte environ 7.6 cents, par personne, chaque année (\$120,000), mais, à l'allure présente, les citoyens épargneront un million de dollars en traitements dentaires," ajoute le docteur Dixon.

Congrès pan-américain à Mexico

Le docteur Harold W. Hart, professeur de prothèse à la faculté de chirurgie dentaire de l'Université du Manitoba, a représenté l'Association dentaire canadienne au Congrès pan-américain de Mexico, qui a eu lieu du 18 au 23 novembre 1958. Le docteur Hart était aussi au nombre des cliniciens invités.

Les dentistes vivent plus vieux aux Etats-Unis

En 1957, la moyenne d'âge des dentistes des Etats-Unis, à leur décès, était de deux ans au-dessus de la moyenne de la population mâle, chez les blancs. Ces statistiques sont tirées d'un rapport de l'Association dentaire américaine.

En Angleterre et les Galles, les dentistes ont le taux de mortalité le plus élevé chez les professionnels. Si on consulte les taux de mortalité de tous les hommes, sans distinction d'occupations, le taux des professionnels n'est pas élevé et les dentistes sont dans la moyenne. Selon le *British Dental Journal*, le taux de mortalité des dentistes est élevé, si on le compare avec celui des autres professionnels.

Le rapport de l'A.D.A. contient aussi les causes des décès chez les dentistes. Les maladies des vaisseaux sanguins, comprenant les maladies de cœur, sont responsables de 56.1 pour cent des morts chez les dentistes, en 1957. Ces chiffres sont quatre fois plus élevés que la seconde cause, les néoplasmes ou cancers.

Ces statistiques ont été compilées à l'aide de chiffres venant des services de santé de 36 Etats et comprenant environ 67% de tous les dentistes qui sont décédés en 1957.

Souscription de membre pour la Fédération dentaire internationale

La Fédération dentaire internationale a grandement besoin d'aide financière pour lui permettre de continuer à un niveau international son travail de plus en plus onéreux

dans des questions qui se rapportent à la dentisterie. Elle se compose de 60 pays et les organismes nationaux de chacun de ces pays lui paient une cotisation basée sur le nombre de leurs membres. Ces revenus permettent à la Fédération d'accomplir son travail administratif.

Mais la Fédération ne peut accomplir d'autre travail sans les cotisations individuelles des membres de soutien. Le nombre des membres de soutien canadiens est relativement bas, si on le compare à celui d'autres pays.

Les affaires dentaires internationales deviennent de plus en plus rapidement importantes pour tous les dentistes du monde entier. L'organisme qui représente la dentisterie officiellement au niveau international est la Fédération dentaire internationale. L'Organisation Mondiale de la Santé s'intéresse activement aux affaires qui regardent la dentisterie. Comme l'Association médicale mondiale, la F.D.I. est affiliée à l'Organisation Mondiale de la Santé. On se rend compte de l'importance qu'il y a à ce que la dentisterie soit bien représentée, quand on réalise que les délégués à l'O.M.S. sont les représentants de tous les gouvernements du monde.

Le prix annuel de la cotisation pour devenir membre de soutien de la F.D.I. est \$15.00 et cette cotisation comprend l'abonnement au *Journal de la F.D.I.* qui est la publication renfermant le plus de renseignements dentaires à l'échelle mondiale.

On sollicite votre aide. On s'adresse au docteur Don W. Gullett, qui est trésorier national de la F.D.L., à 234 rue St-Georges, Toronto.

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Nouvelles du Corps Dentaire Royal Canadien

On a annoncé récemment la nomination du docteur J. L. Y. Cyrenne au Corps dentaire royal canadien, au grade de capitaine.

Né à Saint-Wenceslas (Qué.), le capitaine Cyrenne a fait ses études au Séminaire de Nicolet, où il a été reçu bachelier ès arts, puis à l'Université de Montréal, où un doctorat en chirurgie dentaire lui a

été conféré en 1958. Il occupe un emploi à Montréal, dans la Région militaire du Québec. Sa nomination est entrée en vigueur le 11 août 1958.

Le major A. R. Ramsay, de Montréal, a été affecté au porte-avions H.M.C.S. "Bonaventure", à titre de dentiste militaire en chef.



Bureau de direction de la Société dentaire de Hull



La Société dentaire de Hull a élu son nouveau bureau de direction lors de sa dernière assemblée. Les membres du nouvel exécutif 1958-1959 sont, assis de gauche à droite, les docteurs Gaston Lafrenière, de Hull, trésorier, P.-F. Dumais, d'Aylmer, secrétaire, E. Quevillon, de Hull, vice-président, et W.-A. Parent, de Hull, président. Deuxième rangée, même ordre, les dentistes John C. Laurin, de Hull, Gilles Allaire, de Buckingham, Nicolas Gagnon, de Hull, Armand Vienneau, de Gatineau, et L.-J. Lévesque, de Hull, directeurs.

Il n'est pas trop tôt ...

pour faire des projets pour les mois d'été. Où aller? Quelles vacances prendre?

Nous suggérons que, cette année, vous combiniez l'utile à l'agréable. Songeons que l'Association dentaire canadienne tient son Congrès à Halifax, en Nouvelle- Ecosse, en juin.

Quelle merveilleuse occasion de visiter ce coin du Canada, où l'histoire revit à chaque pas. Voir Halifax, qui a tellement changé depuis la guerre! Parcourir l'enchanteresse vallée d'Annapolis et les sites pittoresques, qui bordent l'Océan Atlantique. Et l'île du Cap Breton et son incomparable Cabot Trail. Et le pays d' Evangéline ... Et les groupements acadiens ... etc.

Le comité chargé d'organiser le Congrès est à préparer quatre jours remplis d'intérêt social et scientifique. Le Congrès se tiendra à l'Hôtel Nova Scotian.

Vous serez heureux de vos vacances, si elles peuvent servir votre profession et votre plaisir dans un cadre enchanteur.

Des renseignements supplémentaires vous parviendront régulièrement dans le Journal et par le courrier.

Actualités Odonto-Stomatologiques, juin 1958, Editions Julien Prélat, 6, rue de la Bucherie, Paris (5^e).

La revue Actualités Odonto-Stomatologiques, dirigée par le docteur Pierre Cernéa, présente dans son numéro de juin 1958 une étude approfondie des Prothèses Unilatérales amovibles. Cette étude de 175 pages, illustrée de nombreuses photographies et schémas est magistralement traitée par le professeur Rigolet et cinq de ses élèves de l'Ecole Dentaire de Paris.

Après avoir donné une définition de ce qu'il entend par prothèses unilatérales, René R. Rigolet préconise de traiter celles-ci en prothèses bilatérales et envisage les moyens qui lui paraissent les plus opportuns pour les rendre tolérables et efficaces. Il montre que les selles postérieures libres, grâce aux artifices de la prothèse équilibrée, peuvent s'intégrer au système rigide de l'ensemble de la prothèse, tel qu'il le préconise.

Il étudie, dans un chapitre consacré à la prothèse équilibrée, les conditions de cet équilibre vis-à-vis de la prothèse elle-même, il en recherche l'annulation des forces de désinsertion et analyse les moyens qu'il donne pour la conservation des dents restantes afin d'en permettre l'utilisation physiologique.

Il fait une étude des zones complémentaires qu'il tend à utiliser pour obtenir des actions compensées. Conseille l'emploi; des barres cingulo-coronaires, dont il donne une description et précise les conditions d'utilisation; ainsi que celui des selles libres qu'il décrit également et qu'il obtient grâce au report des potences. Ses suggestions permettent, notamment, d'obtenir la sauvegarde des dents restantes en respectant et maintenant leurs contacts.

Cinq de ses élèves: MM. Jean Y. Habib, Gabriel Fichelle, Roger Jondeau, Jacques Piette, Jean-Pierre Renard illustrent des cas particuliers de prothèses unilatérales.

Nous recommandons à nos lecteurs de lire ce magnifique numéro des Actualités Odonto-Stomatologiques et nous félicitons les auteurs de ce travail qui nous permettra d'utiliser dans nos prothèses partielles amovibles, tous les éléments naturels de la cavité buccale qui concourent à la stabilisation statique de la prothèse et ensuite l'annulation des actions dynamiques qui tendent à rompre les conditions d'équilibre, ce qui est déjà plus difficile.

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D.S.P.I. and Dental Service Plans *

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INTRODUCTION

On January 1, 1959 two plans for dental care service were inaugurated in Ontario. The first is a Welfare Plan in which approximately 19,000 children under sixteen years of age who qualify under the Mothers' and Dependent Children's Allowances Act of Ontario will receive basic dental care through a contractual agreement effected between the Royal College of Dental Surgeons of Ontario and the Ontario Department of Public Welfare. The second plan is a Post Payment Plan for dental services in which a patient may receive the dental treatment he requires when he needs it and pay for it on a time basis. The plans have been approved by

the Board of Directors of the Royal College of Dental Surgeons of Ontario and will be administered by a federally incorporated body developed and controlled by the dental profession — Canadian Dental Service Plans Incorporated.

The dental profession has been assiduous in its efforts to enunciate to the public the values inherent in sound dental health. Great emphasis has been placed upon adequate nutritional requirements, strict

*Based on an address to the Winter Clinic of the Academy of Dentistry, Toronto, November 17, 1958.

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†Administrator, Canadian Dental Service Plans Incorporated.

control of fermentable carbohydrates, adequate and timely oral hygiene procedures and early and regular dental care. Certain factors, including inadequate numbers of dentists and, particularly for the lower income groups, cost of treatment service, have often somewhat precluded the broad application of early and regular dental treatment. To enunciate a means to better dental health is one thing. To provide such a means is quite another.

Dentistry must demonstrate a further participating interest in the health of the public by taking the initiative to extend its vital services as broadly as possible. We must provide a means through which persons receiving social service assistance and the lower income groups, to whom the provision of dental care presents certain financial obstacles, may obtain the necessary dental care services which we know they require.

It is, perhaps, redundant to stress the fact that Canada is to-day about half-way in carrying out the plan for National Health Insurance as presented to Parliament in 1948. First there were several health grants to assist in building hospitals, making provision for surveys, then the establishment of diagnostic services and training of personnel in certain health fields, all in preparation for health insurance. Hospital insurance in Ontario and several other provinces became a fact on January 1, 1959. When health insurance is fully established in hospitals, medical services are to follow with dental care not far behind. The plan is definite. Only the timing remains obscure.

Our profession in one province has been administering a Pensioners' Dental Treatment Service and in another a non-profit post payment plan. By and large other existing services are conducted by governmental agencies or departments. We believe that the more actual control of any health plan left to the responsibility of the respective profession involved, the better the services will be for the public. Professional personnel have been trained to be responsible and we believe that we

can administer our own plans more effectively, more efficiently, and certainly more economically than can governments. We must, however, prove it.

Medicine has provided ample proof of this contention but, to date, pertinent evidence in respect to dentistry's capabilities is all too scanty. Alberta's Pensioners' Service and Saskatchewan's Post Payment Plan provide, essentially, the only experience Canadian dentistry has to offer. It can probably be said, without impugnation, that dentistry is fifteen years behind our sister profession in the development and administration of plans for health care. A further extension, therefore, of dental service plans throughout Canada, is mandatory if dentistry is to negotiate, effectively, with any government which proposes to introduce a health insurance plan which includes dental care.

ESTABLISHMENT OF D.S.P.I.

Before plans may be effectively instituted some agency of administration must exist. Accordingly, the Board of the Royal College of Dental Surgeons of Ontario, following the unanimous approval of the Board of Governors of the Canadian Dental Association, has applied for a federal charter to incorporate an agency to administer plans and the name Canadian Dental Service Plans Incorporated has been approved.

Planning for various health services on a mass basis is a vital contemporary concern in most civilized areas of the world. It appears obvious that if the profession is to retain control of its own services in the future, it must establish, under its aegis, organizations capable of administering dental service plans on a group basis. There should be, at least in the future, some provision made for the dental services organization to represent not only those who provide the service, but those who receive it.

The operation of such a service organization, although non-profit in character, is, nevertheless, a business and should be established as a limited liability company

for a specific purpose similar to any other organization handling money.

The object of such an organization should be to have all Plans related to payment for dental services administered, at least provincially, by one agency on a non-profit basis. The same body should administer all approved group plans for dental services within a province, and these may include agreements with governmental authorities, unions, industrial organizations or any other representative body. Such arrangement means economy, gives experience and establishes one recognized authority which is important. Obviously, in this regard, some experimentation will be necessary.

Canadian Dental Service Plans Incorporated, possessing a federal charter, will have the facility to function inter-provincially and thus wider participation and greater economies of administration are possible. These, then, are some of the considerations which convinced the Board of Directors of the Royal College of Dental Surgeons of Ontario to make available the necessary personnel, physical accommodation, and financial support to launch Canadian Dental Service Plans Incorporated.

OPERATION OF D.S.P.I. IN ONTARIO

On January 1, 1959, D.S.P.I. assumed the responsibility of administering two plans which have as their prime purpose the further extension of dental services in Ontario. These plans are a Dental Treatment Service for Certain Welfare Recipients and a Post Payment Plan.

1. *The Welfare Plan*

On April 22, 1958 the Minister of Public Welfare on behalf of the Government of Ontario and the President and Secretary of the Royal College of Dental Surgeons of Ontario on behalf of the profession effected a contract in which the profession agrees to provide basic dental care to dependent children or dependent foster-children under sixteen years of age who qualify within the meaning of the Mothers' and Dependent Children's Allowances Act

of 1957. The basic dental care embraces fillings, extractions, necessary radiographs and prophylaxes. The Royal College will receive each month, seventy cents for each child who is a beneficiary during the month. It is estimated that approximately 19,000 such children are presently eligible. It is the hope of the Board of Directors that further groups will be added as experience is gained both by the profession and the Department of Public Welfare.

The Department has furnished each qualifying mother with an identification card which contains her name and address as well as the names and dates of birth of her children. From this the dentist can determine the eligibility of the child.

Each dentist in Ontario has been supplied with a few chart forms on which he can record the pertinent information respecting an eligible patient for whom he wishes to undertake treatment. Following the examination the dentist may then proceed, without authority, to render the care which the agreement permits. Should he go beyond the stipulated treatment or should he render service for an ineligible child then no responsibility rests with D.S.P.I. to provide funds for those services. The dentist is prohibited by law from rendering any other account or collecting payment from any other source for services he has provided under this agreement.

As the Ontario Dental Association is possessed of a Schedule of Fees it is the intention to employ that schedule in establishing the fees for the Welfare Plan. It will, however, be necessary to pro rate the accounts as the available funds will not permit payment to the full extent of the schedule.

It is also the present intention that after an account is received from the dentist to make an initial payment which is considered well within the aggregate resources available then towards the termination of the fiscal year to remit another payment based on the funds available. In this way a heavy patient demand on the service in one month may be offset by a lessened

demand in another and all participants will share equally in proportion to the services they have rendered.

The children concerned under this plan at the present time are either receiving no care at all, or in the main, individual members of the profession are providing their services gratuitously.

Payments to the dentist will be made once per month on a cycle system.

This plan represents only an initial activity in respect to persons receiving social service assistance. It is the hope of the Board of the Royal College of Dental Surgeons of Ontario that the service may be extended to others whose lack of employment, whose age or health, make it almost impossible to provide for themselves the essential dental care they require. Full co-operation by the profession will be necessary if this vital program is to be effective.

2. *The Post Payment Plan*

A Post Payment Plan is one in which a patient may receive the dental care he requires when he needs it and pay for it on a time basis, through an arrangement which is administered and comes under the direct oversight of the profession.

The plan has four basic and fundamental purposes:

1. To provide dental care for patients who are unable to pay cash for treatment.
2. To arrange credit on an equitable basis in a manner suitable to the patient's income.
3. To present to the public an ethical plan whereby families whose income is already depleted by steadily mounting costs can avail themselves of the best in dental care without financial embarrassment.
4. To keep the cost of dental care to a minimum by operating a non-profit organization within the framework of the provincial dental bodies, thus eliminating some of the high charges required by finance plans.

Recent authoritative figures indicate

that in Canada in 1956 some \$1,806,000,000 worth of goods and services involved instalment financing. Some \$3,234,000,000 was dealt with by way of charge accounts. The Canadian Credit Men's Association states that 95% of our population are buying on time payment plans of one type or another. It would be redundant, then, to review further the extent to which credit buying has become a pattern of our lives. Although one may have great difficulty in justifying such a wide acceptance of credit buying, nevertheless it is a process which has enveloped contemporary life. It appears to be obvious, therefore, that if dentists expect some of their statements to be given comparable priority to the automobile, the electric dryer or the outboard, some consideration must be given to post-payment plans.

A number of post-payment plans have been operating with various degrees of technical success for some time, in the United States, particularly. There the banks administer the financial arrangements. The accounts submitted to the bank must be acceptable to the bank and this, of course, defeats the primary purpose of the plan and leaves the somewhat less desirable risks to be taken care of by the profession in the traditional manner. Furthermore, when the note is deposited with the bank, the bank assumes its disposition and the patient-dentist relationship is thereby eliminated.

The dentists participating in such plans must establish a sinking fund through contributions or must guarantee the accounts by backing their own notes. A Finance or Loan Plan is, therefore, no answer to the problem presented in attempting to extend dental services as broadly as possible to the low-income group.

In 1954, the Canadian Dental Association approved certain principles pertaining to post-payment plans. In essentiality these plans were to be non-profit in character and operated under the direct control of the profession.

In order to evaluate the practical application of a post-payment plan, according

to the approved recommendation of the Canadian Dental Association's Health Insurance Studies Committee, a pilot plan, sponsored by the Saskatchewan Dental Association has been in operation for three and one-half years. The plan, and this is a vitally important precept, was instituted as a dental health service rather than a collection agency. The operation has been a successful one and is the only post-payment plan approved by the Canadian Dental Association. The Ontario plan is based on the same principles and policies but will differ only in methods of administration.

A post-payment plan seems to provide a more satisfactory answer to the problem of making provision for dental treatment services than does pre-payment. In order to make pre-payment schemes financially self-supporting it is necessary to establish a premium rate beyond which it would be conducive to participation especially by the lower and middle income groups. Although we in the profession recognize the seriousness of dental diseases, the public, by and large, does not regard them in the same light as the more dramatic maladies which are a direct cause of death or catastrophic illness.

These considerations, then, have led the Board of Directors of the Royal College of Dental Surgeons of Ontario to approve a post-payment plan for dental services in the province. Canadian Dental Service Plans Incorporated will administer this plan.

How It Works

The plan works very simply. Each participating dentist is supplied with the agreement forms and explanatory literature. A wall plaque stating that the office is a member of the Canadian Dental Service Plans Incorporated Post Payment Plan is provided as well as a smaller edition of the plaque for use wherever the financial arrangements are discussed with the patient. Pamphlets also indicating the availability of such a plan and all pertinent details respecting it are provided

for the reception room literature table. In most instances, the prospective patient, therefore, is aware of the existence of a plan before he enters the operating room.

After the examination has been performed, the case presentation made, and the estimate of cost given then either the dentist or assistant, whichever is preferred, discusses the financial arrangements to be made. If the account is not being paid in cash, then the patient is further acquainted with the deferred payment plan available and if this method is accepted the explanation concludes with the signing of the agreement. (Figure 1.) The agreement is then forwarded to D.S.P.I. from whence all further servicing of the account emanates. At the office of D.S.P.I. that account is confidential and no one other than the employees directly concerned in performing the necessary accounting procedures will have access to any information relative to it.

The Central Office is equipped with the most modern accounting and recording equipment available. The fundamental task is to operate the most efficient system for servicing patients' accounts and do this at such low cost that there will be a resulting substantial saving to the dentist over his present methods.

The agreement arranged between the dentist and the patient may be as flexible as both parties mutually agree for it to be. The terms of agreement rest completely with the dentist and his patient and D.S.P.I. will follow any payment plan stipulated in the agreement. There is neither a minimum nor a maximum amount which can be submitted. There is no minimum or maximum payment required. There is no minimum or maximum time over which the payments must be extended. These arrangements rest entirely with the dentist and his patient and D.S.P.I. waits only to serve the wishes of both parties as stated on the signed agreement.

The plan will cover any account regardless of when the treatment was rendered provided the patient signs the

A/C NO.		Mr. <u>A. B. Someone</u> promise to pay to the	
FEE	\$ 190.00	order of Dr. <u>C. D. Anyone</u>	at the office of Dental Service Plans Incorporated,
Less Cash Paid	27.00	the sum of <u>One hundred and sixty-nine</u>	<u>50/100</u> Dollars
NET	163.00	(\$ <u>169.50</u> in <u>12</u> equal monthly installments commencing <u>January 15</u>	<u>1959</u>
Plus Service Charge	6.50	or in installments as follows:	
TOTAL NOTE	169.50		
until the said sum shall have been paid in full together with interest calculated at the rate of one-half of one per cent per month after maturity on the balance from time to time outstanding. If default is made in payment when due of any part or installment of principal or interest, then the whole sum of principal and interest shall immediately become due and payable at the option of the holder of this note, without notice.			
Dated at <u>Anytown</u> <u>Ont.</u>		Signature <u>A. B. Someone</u>	
This <u>14</u> day of <u>December</u> <u>1958</u>		Address <u>123 Any Street</u>	
☐ Renew Forms Supply		Town & Province <u>Anytown, Ontario</u>	

A/C NO.		Mrs. <u>A. B. Someone</u> promise to pay to the	
FEE	\$ 182.00	order of Dr. <u>C. D. Anyone</u>	at the office of Dental Service Plans Incorporated,
Less Cash Paid	50.00	the sum of <u>One hundred and thirty-four</u>	<u>20/100</u> Dollars
NET	132.00	(\$ <u>132.00</u> in <u>12</u> equal monthly installments commencing <u>January 15, 1959</u>	<u>19</u>
Plus Service Charge	2.20	or in installments as follows <u>\$50.00 on January 15, 1959 and</u>	
TOTAL NOTE	134.20	<u>\$84.20 on May 15, 1959</u>	
until the said sum shall have been paid in full together with interest calculated at the rate of one-half of one per cent per month after maturity on the balance from time to time outstanding. If default is made in payment when due of any part or installment of principal or interest, then the whole sum of principal and interest shall immediately become due and payable at the option of the holder of this note, without notice.			
Dated at <u>Anytown</u> <u>Alta.</u>		Signature <u>A. B. Someone</u>	
This <u>17</u> day of <u>December</u> <u>1958</u>		Address <u>123 Any Street</u>	
☐ Renew Forms Supply		Town & Province <u>Anytown, Alberta</u>	

FIGURE 1

Two specimen agreement forms. The form is completed by the dentist, signed by the patient, and then forwarded by the dentist to the office of D.S.P.I. There may be an infinite number of variations to this agreement to meet the mutual

desires of both patient and dentist. The upper agreement indicates an account in which the 50 cent per month service charge applies, the lower note being less than \$150.00 entails a 30 cent per month service charge to the patient.

necessary agreement. It is generally advisable to have the husband's or father's signature where wives or dependent children are involved. A wife, however, in Canadian law, does have the right to pledge her husband's credit for the necessities of life. Should it be necessary to provide further treatment, the need of which was not recognized at the outset it is only necessary to have the patient sign another agreement. Should the account, on the other hand, be less than the estimate a signed direction from the dentist will permit the office to reduce the indebtedness by the amount stipulated.

The administration of such a plan will depend on the functional efficiency of the accounting office. The follow-up and

accounting procedures have been developed in consultation with the Royal-McBee Company and extensive use will be made of some of the most modern accounting equipment available.

The agreement is registered and given an account number. The name of the participating dentist has a constant code number and this plus added digits to designate the patient becomes the patient's number. Subsequently any reference to the patient's code number automatically indicates the name of the dentist.

The payments agreed upon by the dentist and patient are checked, and a combination ledger sheet and acknowledgement to the dentist and the patient are made up. Coupons totalling the

number of payments to be made are automatically prepared and put in booklet form. The booklet, reiterating the terms of payment agreed to by the patient, is mailed to the patient and he is informed that the account may be paid directly to any branch of any chartered bank in Canada, to the D.S.P.I. office, or to the dentist directly.

When the patient makes the payment, a portion of the coupon is detached either by the bank or the dentist and is forwarded to the central office. The bank coupon, of course, is accompanied by the payment received while the dentist, if the patient pays him directly, retains the payment and the plan office makes the appropriate service charge on his account. As payments are received and because the coupons are coded, they are automatically credited to the dentist's trust account. Moneys received are remitted to the participating members monthly on a cycle system, i.e. all amounts are not remitted at one time in the month but the work is spread as evenly as possible.

When the account is paid the agreement is returned to the patient perhaps in company with appropriate dental health literature.

Should the patient exhibit a tendency to tardiness in making his remittance an efficient follow-up system is then activated. When an account becomes in arrears seven days a reminder is sent to the patient. This is followed at seven day intervals by notices of increasing intensity. Should this follow-up system prove ineffective the dentist is notified and legal action, if indicated, is suggested. The dentist, however, has the decision whether or not legal action is to be instituted. If the dentist directs that a judgment be sought then the central office initiates and conducts the necessary action. The cost of such a procedure becomes the responsibility of the dentist but these costs usually become part of the successful judgment. In 3½ years of operation in Saskatchewan, it has been necessary to obtain judgment only on three occasions.

It is our contention that D.S.P.I. can, in this regard, function more effectively and more efficiently than the most superlatively administered private dental office because of one simple psychological factor. A patient knows that if he is indebted to one dentist he can quite readily seek and obtain service at another and perhaps leave him owing a further account. When a third party, in this instance D.S.P.I., is participatingly concerned there is the implication of a poor credit rating and public knowledge of his shortcomings. This is a powerful incentive to payment in a country where 95% of the population is dependent on satisfactory credit ratings.

However, we believe that a third party separate from and not ethically responsible to the profession is undesirable. Dentistry must, on its own initiative, establish an acceptable plan whereby people may receive the essential dental care they require without the intervention of some governmental or other agency. This, perhaps, is the most important aspect of the entire plan.

The obvious savings to the dentist should be apparent. The burdensome and time consuming activities of the dentist and his staff associated with billing and collection procedures are eliminated. There is a significant saving in stationery and postage alone. Many overdue accounts are now referred to professional collection agencies where commissions as high as 50% are charged if time payments or legal services are required. These accounts might never have become delinquent in the first place had the dentist had the time and, perhaps even more importantly, the system to service them properly and was possessed of the degree of persuasiveness enjoyed by an organization such as has been envisaged.

A further service is available for members of D.S.P.I. An arrangement has been consummated with Associated Credit Bureaus of Canada which will enable a member, simply by calling his local Credit Bureau, to obtain a credit rating on any patient he desires. He indicates that he

wishes "D.S.P.I. Code Service" and he is presented with the verbal information which classifies the patient as A, B, or C. "A" indicates a good credit risk; "B" that approximately one-third of total accounts have been paid from two to six months slow and "C" that the patient has a poor credit standing. As a further service, the Bureau will also indicate if a patient has an account outstanding with another dentist but, of course, the name of the dentist will not be given. There is a 75c charge for each credit rating obtained.

The cost of participation in the plan for both dentist and patient is modest. To the dentist there is a lifetime membership fee of \$35.00 plus 1% service charge on all amounts remitted. To the patient there is a basic service charge of \$1.00 plus 30 cents per month in each subsequent month the account is carried if the account is less than \$150.00. If the account is \$150.00 or more the basic \$1.00 charge remains the same but the monthly service charge is increased to 50 cents.

As an example, if a patient's account of \$100.00 were to be paid on the basis of \$25.00 per month, the total service charge would be \$1.00 for the first month plus 90 cents for the three subsequent months, making a total in all of \$1.90. The patient, therefore, would pay to the plan office over a period of four months, \$101.90. The dentist would receive 99% of the basic account or \$99.00.

This service is not that of a collection agency designed to protect the dental profession any more than an insurance or

hospital plan is formulated to protect the medical profession. Dental diseases are not, to the public, particularly spectacular. They do not possess in themselves factors which motivate people to obtain protection to meet the cost incurred by their treatment. The promotion of pre-payment plans, therefore, becomes, at least at the present time, almost a fruitless endeavour. Our responsibility is a continuing program of dental health education and in addition the development of a means whereby it is possible for honest persons, irrespective of their financial resources, to obtain the treatment services necessary to maintain sound dental health.

One would be a hypocrite should he advocate a policy of extended dental care to the public with no protection for the practitioner. A dentist, similar to anyone else, must receive adequate remuneration for the important services he provides. This plan will help him to live well and render a vital service to his community.

The next few years will be important ones for Canadian dentistry. It is certainly not beyond probability that within ten years some form of nationalized medical and dental treatment services will exist. The efforts we make now, the understanding co-operation each practitioner exhibits, and the effectiveness, the efficiency and the economy of any administrative procedures which we ourselves develop, may well shape a palatable, an acceptable, a reasonable pattern of dental practice in the future. The choice is ours to make.

230 St. George St.

Drudgery—The everyday cares and duties, which men call drudgery, are the weights and counterpoises of the clock of time, giving its pendulum a true vibration, and its hands a regular motion; and when they cease to hang upon the wheels, the pendulum no longer swings, the hands no longer move, and the clock stands still. *Henry Wadsworth Longfellow.*

The Management of Disorders of the Temporomandibular Joint *

LASZLO SCHWARTZ, D.D.S.,* New York, N.Y.

INTRODUCTION

The subject of temporomandibular joint disorders has received a great deal of attention during the past twenty-five years. During this time, however, there have been changes in concept and in methods of treatment. For example, if we were discussing the management of the disorders of the temporomandibular joint twenty years ago, we could dispense with the entire discussion with the use of the phrase: "Open the bite."

COSTEN'S SYNDROME

"This method of treatment was based on the hypothesis of Costen⁽¹⁾, an otolaryngologist. In 1934, on the basis of 11 cases, he described a syndrome, consisting of ear symptoms, such as deafness, dizziness, and ringing in the ears, together with sinus-like pains. Costen explained these symptoms on the basis of bite closure due to the loss of posterior teeth. He held that with bite closure the condylar head could be displaced distally causing pressure on the auriculotemporal nerve; medially causing pressure on the chorda tympani; superiorly eroding the tympanic bone and irritating the dura of the brain. He also stated that distal displacement caused a bunching up of the tissue about the opening of the eustachian tube, causing deafness. In time Costen added other symptoms, such as burning tongue and trismus. He did not, however, alter his concept of the basic mechanism.

Anatomists soon studied the problem

and found that the structures described by Costen could not be reached by the condylar head. Some clinicians warned of the dangers of bite raising but it won wide popularity, nevertheless. However, with greater knowledge of the importance of the resting or free-way space and with evidence of the damage frequently following bite opening, the practice waned. The concept remained, however, with its reliance upon altering occlusion. But the methods of treatment changed. In place of emphasis upon vertical dimension, centric relation was stressed. Patients suspected of presenting the symptoms described by Costen were no longer treated with bite opening, but by the elimination of premature contacts, either through selective grinding, restorations, or orthodontic treatment. While the methods of treatment changed in detail, basically they remained the same in that reliance was placed almost entirely upon correction of what the individual practitioner considered to be occlusal abnormalities.

HYPERMOBILITY

Actually, Costen's syndrome was not concerned with disorders of the temporomandibular joint, but rather with symptoms believed to be associated with joint dysfunction. In 1937, however, a method of treatment was introduced which focused upon the joint proper.

In this year Schultz⁽²⁾, an oral surgeon, introduced the use of a sclerosing agent by intra-articular injection. This treatment was advocated for what he called subluxation, conceived to be an incomplete, or self-reducing dislocation. In time, the treatment was utilized for other

* Presented before the Annual Convention of the Canadian Dental Association, Montreal, October 29, 1958.

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symptoms, such as pain and clicking. The rationale was that these symptoms were due to "hypermobility" of the condylar head. It was felt that such hypermobility was due to looseness of the ligaments supporting the joint and that the sclerosing solution, by creating a scar tissue, would tighten the loose ligaments and restore limited and more normal function.

Thus, if we were considering our subject ten years ago, in addition to opening the bite, we may have added the phrase, "Inject the joint." But do these methods stand up now? I do not think so, and I should like to give you my reasons.

CLINICAL INVESTIGATIONS

About nine years ago, when we began our research, we had serious doubts, on the basis of work done by earlier investigators, both clinical and in basic science, as to the validity, of both Costen's and Schultz's concepts. Dr. Melvin Moss has already pointed out in his paper on the functional anatomy of the temporomandibular joint that functionally the fossa is not part of the joint. He has also pointed out that the joint is a freely-movable joint, under the control, except for extreme movements, of the masticatory musculature. Hence, Costen's and Schultz's therapy was based on two misconceptions: 1 — That the fossa can be subjected to abnormal pressures, 2 — That a movement of the condylar head forward of the articular eminence is abnormal.

About ten years ago, because of misgivings regarding the basis for current methods of treatment, we decided to start our research with a clean slate: to tabulate our patients' symptoms without treating them. After examining about 250 patients, mainly women, we found that the chief complaint of 90% of them was facial or head pain, described as a constant, dull ache, aggravated by mandibular movements. Another 10% offered as their chief symptoms some type of mandibular dysfunction: clicking, subluxation (usually described as the jaw

slipping momentarily, with a feeling that the bite is off), actual dislocation, or limitation. The last was the most common. With most types of dysfunction there was also pain. We found that instead of the syndrome described by Costen, characterized by multiplicity of symptoms, we found relative simplicity of symptoms: pain and dysfunction. Some patients had marked pain with little dysfunction; others had marked dysfunction with little pain. But most of them had some degree of pain and some dysfunction together. We concluded that we really were dealing with a pain-dysfunction syndrome⁽³⁾.

THE PAIN-DYSFUNCTION SYNDROME

Before long it became evident that such syndromes were common in other parts of the body; the wrist — in writer's cramp, the elbow — in tennis elbow, stiff neck, certain types of bursitis of the shoulder, and low back pain. Our investigations led to the conclusion that these symptoms could be explained on the basis of painful impulses arising from the muscles. Such impulses would cause spasm, which was painful, in turn. Thus there was set off a self-perpetuating cycle of pain and spasm. Upon examining our patients, we found in many of them painful areas in the masticatory musculature such as are found in other parts of the body. We also found that by using anesthetics, either in the form of a surface anesthetic such as ethyl chloride spray, or intramuscular procaine, many of these patients were able to stretch their muscles, and function was resumed. In many of them, where pain was not too great, exercise alone seemed to break up the cycle and restore normal function. With further study, covering a total of 1,500 patients, half seen at the Temporomandibular Joint Clinic and half in private practice, the mechanism became clearer.

MECHANISM

Dr. Eli Goldensohn in his paper on the function and dysfunction of the mandi-

bular musculature pointed out that in some patients, particularly under tension, there is increasing motor unit activity. It appears that the pain-dysfunction syndrome may be precipitated in patients with this kind of increased tension of the musculature. This tension is, of course, generalized, occurring in all muscles including those of the jaw. We found that most of our patients with limitation, experienced the onset of the symptom upon opening the mouth on awakening, taking a wide bite, following a long dental appointment or difficult extraction, or sometimes following some change in proprioception such as is inevitable with any type of restorative dentistry. It would seem that with predisposed patients, the stretch receptors fire off sooner than they would in other individuals. When limitation follows dental treatment, the problem is often not what was done, but rather that anything was done.

OCCUSION

We have all had the experience of seeing patients made unhappy by relatively minor restorative procedures. It is my belief that such reactions may be explained by the syndrome I have described, representing muscular response to proprioceptive changes. The question presents itself, how can such reactions be avoided or at least minimized?

I would suggest three means. The first is taking a complete history. A famous English physician lecturing before his students said, "Listen, listen, listen. The patient is giving you the diagnosis." Many of our patients actually tell us that they adapt poorly to dental restorative treatment. Unfortunately, when we hasten to the task at hand, without looking at the patient and listening to him, we may not heed the warning. It is difficult for a patient to express himself with a mouth full of cotton rolls. My first suggestion, therefore, is that we take the time for more complete histories before undertaking any extensive restorative treatment.

The second suggestion I would like to

make is that we broaden the scope of our clinical examination. Instead of focusing our entire attention upon teeth and their occlusion, even including the use of plaster casts, I feel that if we would observe the range and character of mandibular and condylar movements, the size, state, and presence or absence of painful areas in the musculature, we could tell much about the use to which the individual puts his jaws. I do not believe that among civilized people large jaw muscles are due to the prolonged and vigorous chewing of fibrous food. As a result of my experience, I feel that such changes result from the use of the jaw muscles to relieve emotional tension through various habits such as clenching and gnashing, usually grouped under the heading of "bruxism."

A third suggestion is that we change our attitude towards the problem of occlusion. In the history of our profession there have come down various concepts of the "ideal." But we must remember that the purpose of an occlusion is to function for the patient and not to please the dentist. We must be on guard against interfering with occlusion, particularly in patients who on the basis of history and physical examination appear to adapt poorly to changes in proprioception. In such patients, occlusion is often unstable, the centric relation changing from one time to another.

Altering the occlusion of the teeth means a change in the messages relayed to the muscles from the stretch receptors in the periodontal membranes. To such changes some patients accommodate with difficulty, if at all. Occlusal therapy should therefore be approached with competence and caution.

We should also realize that in the physiological system that we treat the jaw bones, joints, and teeth are all passive, doing what muscles make them do. It is true that teeth, like shoes, can fit poorly or fit well; but we all agree that good fitting shoes are much more important to the postman than to an executive who keeps his feet on his desk.

PRINCIPLES OF MANAGEMENT

In the management of temporomandibular joint disorders an accurate diagnosis is, of course, the first prerequisite. The incidence of organic disease affecting the joint is low, but it does occur and must be excluded by differential diagnosis.

In diagnosis, as I see it, there are two dangers. One is to see a disorder where one does not actually exist. The other is not to recognize one that does. The symptoms of dysfunction are not difficult to recognize, but the differential diagnosis of facial pain is not easy, nor is management. These demand a general understanding of the physiological mechanisms at play, patience and the ability to resist the desire for dramatic results, and an

understanding of the basic principles of therapy of other specialties of medicine, particularly physical medicine and psychiatry. Such understanding must, of course, be applied to the particular area of our interest. It seems to me that in the management of temporomandibular joint disorders, what often gets us into trouble is not what we do not know, but rather what we are certain about, that simply is not so.

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Caries and Calculus

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Although caries is nowadays studied mainly by elaborate laboratory methods and statistics, it may still be useful to observe some special cases of caries in human oral cavities.

Experienced practitioners may once in a while see the following case: A neglected mouth, with a regular, circular layer of dark, hard calculus around all the teeth which has obviously been formed under the margin of the gingiva, and which on most of the teeth is still subgingival. In some places the gingiva has receded, and on the denuded tooth surface where one would expect to find the same layer of

calculus as on the adjacent teeth, one finds a carious lesion.

If a section is made through such an area (figs. 1, 2), we can see the layer of calculus in the pocket. (The pocket seems wide due to shrinking of the specimen, in reality the wall of the pocket adhered closely to the surface of the calculus.) The part of the tooth surface close to the margin of the gingiva is covered by a bacterial plaque. There is a carious lesion under the plaque.

There is an accumulation of calcified material (calculus) on one part of the tooth surface, and a destruction of the



FIGURE 1

Calculus under the gingiva, caries above. (Obj. 3.5, ocul. 6.) (Space between calculus and gingiva results from shrinking.)



FIGURE 2

Detail from the same case. Caries, dentinal tubuli invaded. Gingival wall of the cavity is formed by the calculus. Undermined edges of calculus and enamel. (Enamel dissolved during the decalcification of the specimen. (Obj. 10, ocul. 6.)

calcified dental tissues in the adjacent area. The boundary between the carious lesion and the calculus is marked by the margin of the adherent gingiva.

This is not surprising. It has been shown by common experience in operative dentistry by microscopic observations^{2, 6}, by experiments⁹, by observations of different calculus, that the milieu under the gingiva is different from the milieu in the oral cavity. It is not accessible to saliva in the usual way. The subgingival milieu favours a different type of calculus formation than that which usually occurs on the tooth surfaces, which are readily accessible to the saliva. The subgingival is not a favourable site for a carious pro-

cess. The gingival pocket is a transition area between the milieu of the oral cavity and the internal milieu of the organism. The exact boundary depends on many local circumstances, and probably varies widely.

When the calculus formed under the gingiva is exposed to the oral cavity, after the gingiva has receded, it is usually covered by bacterial plaques. In most instances, it is covered by a soft, yellow calculus, which leads to the well known picture of mixed calculus. In some cases, the presence of bacterial plaques may lead to caries.

It is not uncommon to find carious lesions close to calculus on the same sur-



FIGURE 3

Another section of the same case. Caries, dentinal tubuli invaded. Undermined edges of calculus and enamel. (Obj. 10, ocul. 6.)



FIGURE 4

Detail from fig. 3. Gingival wall of the cavity. Bacterial plaque, microorganisms between the edge of the calculus and cementum. (Obj. 25, ocul. 6.)

face of the tooth and under the same bacterial plaque. It is well known that the activity of the microorganisms in the plaque varies in different individuals, and in different periods of time. For instance variations in the pH of the plaque in the same individual have been measured^{7,8}. So it is not surprising that the activity of the plaque varies in different areas, leading to removal of minerals in one place and to deposition of minerals in another place.

It is more difficult to demonstrate that the removal and deposition of minerals may alternate in the same place.

If we examine closely the case in fig. 1, especially if we examine several sections

and several cases (figs. 2, 3, 4, 5, 6), we can see several important details: A bacterial plaque covers part of the tooth surface and the small area of calculus exposed to the oral cavity. Under the plaque, in the centre, the cementum is destroyed and the dentinal tubuli are altered by caries. As it is usually seen in different stages of the caries of cementum, the carious edges of cementum either separate from the dentin or they follow the shrinking carious dentin. The calculus did not shrink and there is a split between the calculus and the cementum and there are microorganisms in this split. The edge of the calculus is not tapering as usual but straight or undercut.



FIGURE 5

Another case, calculus in the pocket, caries above the gingival margin. (Obj. 2.5, ocul 6.)



FIGURE 6

Detail from fig. 5. Caries, gingival wall of the cavity is formed partly by the calculus. Undermining of the calculus and cementum. (Obj. 10, ocul. 6.)

A thorough study of many cases will show that this is neither an accidental mechanical defect nor an artefact due to the histological technique. In this case (figs. 2, 3), we can even compare the split under the calculus with the split between the enamel and carious dentin on the other side of the cavity.

There is a cavity and a part of the gingival wall of this cavity is in the calculus. The calculus undergoes a destruction. The destruction of the adjacent dental tissues is caries, so this destruction of the calculus is actually caries of the calculus.

There may be greater differences between the destruction of calculus and

caries of the dentin, than there are between caries of the enamel and caries of the dentin. Nevertheless, because of the continuity of calculus destruction with the formation of a cavity, this destruction of calculus belongs to the clinical phenomenon of caries.

The destructive process which manifests itself in dental tissues as caries may begin on the surface of the calculus.

In typical cases, the surface of the calculus is convex and relatively smooth. In the substance of the calculus, there are lines resulting from the periodical apposition. The cavity wall formed by the layer of calculus is concave, rugged



FIGURE 7

Ground section. Cavity in the enamel and calculus. Rugged, concave superior outline of the calculus, convex gingival outline. (Obj. 2.5, ocul. 6.)

and undermined, it cuts across the lines of growth of the calculus. In some cases, especially on sections stained with Gram stain, we can see a distinct difference between the surfaces of the calculus under and above the gingiva. Under the gingiva, it is covered by an organic material containing many dead cells and relatively few microorganisms, the surface exposed to the oral cavity is covered by a typical plaque consisting mainly of filamentous microorganisms.

Where there is calculus on the periphery of a large cavity, it is usually destroyed by an undermining and breakdown of the enamel and calculus. Only if we study some well selected specimens, may we find evidence of carious destruction in the calculus. This allows us to compare the resis-

tance of calculus and enamel to carious destruction. The margin of the cavity in the calculus extends further than the periphery of the cavity in the enamel, indicating that the calculus is less resistant than the enamel. (Fig. 7.) In the initial cervical caries the calculus seems to have about the same or slightly higher resistance than cementum and dentin.

Following the removal of old calculus from a tooth, we may sometimes find an area on the enamel surface which is hard, pigmented, opaque, and occasionally rough. If we examine such a case microscopically, we may see arrested enamel caries with its characteristic zone of pigmentation and cross striation of the enamel prisms. The superficial layer of the enamel is translucent and homogeneous, forming a thicker and better defined area than the well known mineralized superficial zone in an initial enamel caries. There is a layer of calculus above this zone. (Figs. 8, 9.)

It is an initial carious lesion which has not yet resulted in any loss of substance, but which is essentially a process of the removal of minerals. This lesion is in the enamel and under the calculus, so we can accept beyond reasonable doubt that

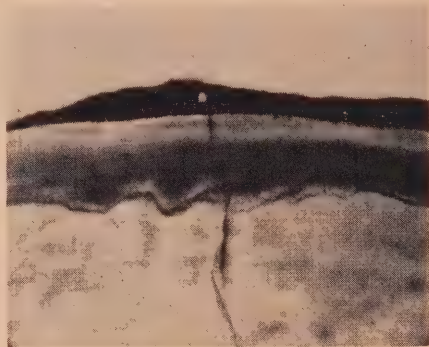


FIGURE 8

Horizontal ground section through the cervical enamel of a molar. Superficial cervical enamel caries. Translucent layer at the surface. Calculus above the surface. (Obj. 10, ocul. 6.)

the removal of minerals was the first pathologic process in the chain of events in this area.

The superficial layer of the carious lesion is translucent and has higher concentration of minerals than is usual. Above the surface of this enamel there is an accumulation of calculus. The minerals deposited in the calculus are from saliva. The continuity of the processes would seem to indicate that the minerals deposited in the previously demineralized layer of the enamel, must be partly of salivary origin, and not solely due to a shifting of the mineral salts within the enamel.

These observations show the following: First, there was a carious process, essentially a removal of minerals, then came a deposition of minerals, which is apparent above the enamel surface in the calculus, and under the enamel surface in the superficial layer of the carious enamel.



FIGURE 9

Detail from fig. 8. Enamel caries with its zones. Wide, clear, translucent superficial zone. Calculus. (Obj. 25, ocul. 6.)



FIGURE 10

Cervical caries of the cementum and dentin, partly filled by two layers of calculus. (Obj. 25, ocul. 6.)

The deposition of excessive minerals which manifests itself upon the tooth surface as the formation of calculus, may begin in carious enamel. The increase in the content of minerals, apparent in the arrested enamel caries, may continue above the tooth surface as formation of calculus.

Obviously, from these observations alone, we must not presume any conclusions about the chemical details of the mineralizing process.

It is not too unusual to find calculus in a cavity which extends into the dentin.

(Fig. 10). This shows again that the demineralization can be followed by the deposition of minerals but the situation in dentin allows various interpretations.

The variations between the periods of mineralization, inactivity, and demineralization can be shown by various means: Direct observation^{11, 12}, zones in carious lesions or calculus, clinical facts of arrested caries, etc. The cases described above are a clinical evidence of two extremes: A deposition of an obvious excess of minerals followed by a demineralization altering even dental tissues. A demineralization of dental tissues followed by a deposition of excessive minerals.

These cases show further that the organism does have the means to destroy calculus and to repair the initial caries. Our present treatment of such small caries consists in destroying ten times the amount of tissues altered by the pathologic process. Although it sounds utopistic at present, we should study these natural defensive processes, endeavouring to be able, one day, to stimulate a healing process in the desired area to a desired degree.

SUMMARY

Calculus formed under the gingiva and then exposed to the oral cavity may be attacked by caries.

The superficial layer of small enamel caries may be mineralized and covered by calculus.

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University of Montreal

NEW AGENTS COUNTER STAPHYLOCOCCUS

Two antibiotics were reported to be apparently effective against staphylococcal strains, at the Sixth Annual Symposium on Antibiotics, October 1958 in Washington, D.C. In two years of clinical trials of vancomycin, no resistant staphylococcus bacteria were encountered, according to Dr. M. M. Kirby and two colleagues of the University of Washington. They added that in 30 patients who were administered the drug in the last year results were dramatic in instances where other antibiotics had failed.

Another antibiotic, kanamycin, was presented as a highly effective bactericidal agent with a broad spectrum by researchers at the University of California and Wadsworth Veterans Administration hospital. They described its use on 100 patients.

Also, Dr. Paul A. Bunn and Dr. Aldona Baltch of the State University of New York Upstate Medical School report in the *New England Journal of Medicine*, October 2, 1958, that kanamycin has been found "to have an inhibiting action against most staphylococci that are penicillin-resistant" in the treatment of 25 severe and acute infections in the adult.

Transplanting of Teeth

J. MENZIES CAMPBELL,* D.D.S.Tor., Hon.F.D.S.R.C.S.Eng., F.R.S.E.

The practice of transplanting 'live' or 'dead' teeth was popular, particularly until the closing years of the eighteenth century. For anatomical reasons, this operation was, more or less, restricted to the anterior teeth.

It consisted of replacing a carious tooth by a sound one extracted from the jaw of a misguided ignorant person, who was usually in straitened circumstances. In the case of a 'live' tooth, carefully selected 'victims', whose teeth seemed most closely to conform to the outline of the carious one, were assembled in the dentist's operating room along with the patient upon whom transplanting was to be performed.

The defective tooth was extracted, and then the one chosen to replace it; the latter was without delay inserted in the bleeding socket. If the operator realized the importance of immobilization for a period, this was achieved by means of a splint 'of sorts'—more often a ligature. If the tooth from the first 'victim' proved unsuitable, another was forthcoming from the next, and so on until the dentist was satisfied.

As those persons who benefited invariably belonged to the upper stratum of society, the fees exacted were usually high. Paul Jullion in *'A Practical essay on the human teeth'* . . . (London, 1781), stated that he charged £5.5s. for transplanting a 'live' tooth and £2.2s. for a 'dead' one. This was not exorbitant for skilful treatment.

On the other hand, not infrequently one shilling only was paid as compensation to persons (usually minors) who had

been disfigured. Nevertheless, from an MS., there is evidence that the generously minded Mr. Spence, of Edinburgh, gave a poor girl 21s. for her sacrifice.

In time the practice of transplanting teeth fell into disfavour, due mainly to innumerable failures, risk of transmitting disease, and notable advances in artificial restorations.

It is very questionable if dentists, of today, would be so well aware of this bygone method, but for Thomas Rowlandson's caricature, *'Transplanting Of Teeth'*, executed in 1787. The central figure of this magnificently coloured etching, comprising eight persons, is a fashionable foreign-looking dentist extracting a chimney-sweep's tooth with a key instrument.

Seated alongside, apprehensively watching the operation, is a lady 'of quality' holding a bottle of smelling-salts. She has had a carious tooth extracted. Shortly, one from the sweep's jaw will be fixed into her bleeding socket.

Leaving the room are a ragged boy and girl — the latter somewhat reproachfully inspecting the money received as recompense.

According to a placard, the scene is portrayed in the consulting room of 'Baron Ron, Dentist to Her Mightyness, The Empress of Russia . . .' Another announcement reads, 'Most money given for live teeth'.

A point which, hitherto, has baffled dental historians is the identity of the dentist who is the central figure in *'Transplanting Of Teeth'*.

It is totally wrong to assume, as has so frequently been done, that Rowlandson's dental caricatures dealt with a specialized practice and not with any particular per-

*Honorary Member, American Academy of the History of Dentistry.

son. For instance, the central figure of his caricature, 'A French Dentist Shewing A Specimen Of His Artificial Teeth And False Palates', is undoubtedly Nicolas Du-bois de Chémant.

Fortunately, the writer has now been able to solve the problem in the case of 'Transplanting Of Teeth', because a 'proof before letters' of this recently came to light. On the partly open door of the consulting room, there is the sign—'Ruspini'.

He has now most carefully compared the features of this caricature with those of several portraits of Ruspini in his collection; and, in his opinion, there is no doubt that Rowlandson chose Ruspini (1728-1813) as the central figure.

Ruspini, with a surgical diploma, was one of the most fashionable and successful dentists of his time in London. He practised in Pall Mall, opposite Carlton

House. In 1787, along with His Royal Highness, George Prince of Wales, he instituted the Prince of Wales's Lodge No. 259.

In the following year, with the coöperation of royalty and members of the aristocracy, he founded an orphanage for girls, then known as the Royal Cumberland Freemason School. Today, this continues to flourish as the Royal Masonic Institution for Girls, and has been under royal patronage for upwards of 170 years.

In 1789, the title of Chevalier (duly entered by the Earl Marshal and Hereditary Marshal of England in the Register of Nobility at the Herald's Office) was conferred upon him in recognition of his professional skill and benevolence and hospitality to foreigners, irrespective of rank or wealth.

70 Great George St.
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Royal Canadian Dental Corps School

CAMP BORDEN, ONTARIO

The training of highly qualified technicians in clinic and laboratory fields at the ultra-modern Royal Canadian Dental Corps School at this big Regular Army base is helping to assure that members of the Canadian Armed Forces receive the best dental care.

This unique school supplies skilled instruction that is available nowhere else in Canada for other rank craftsmen who, upon graduation, assist dental officers in many fields of their profession. In addition to teaching dental trades, the school

carries out advanced research in dental science and is continuously testing new equipment that has been designed by leading dental manufacturing firms throughout the world.

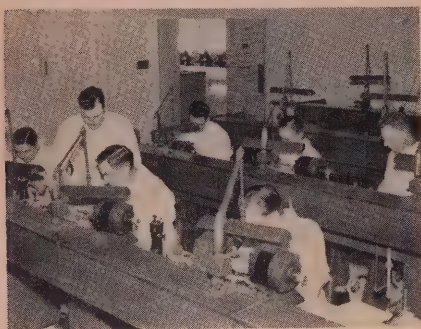
Opened last summer by the Hon. George R. Pearkes, VC, Minister of National Defence, the Camp Borden school is housed in a modern building that contains the most modern laboratory, clinical and classroom equipment. It is commanded by Col. Bertram P. Kearney who has a skilled staff of senior dental officers and NCO instructors to assist him in carrying out the extensive training and research program.



The Royal Canadian Dental Corps School at Camp Borden, Ont.

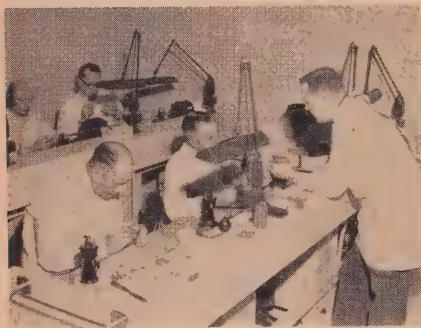
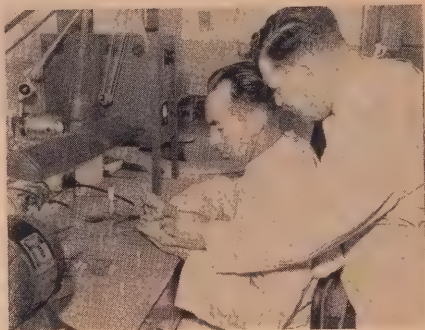


Colonel Bertram P. Kearney, right, Commandant of the school, with Lt.-Col. Garth Evans, Chief Instructor. The flags of the Royal Canadian Navy, Canadian Army and Royal Canadian Air Force represent the tri-service aspects of the school.



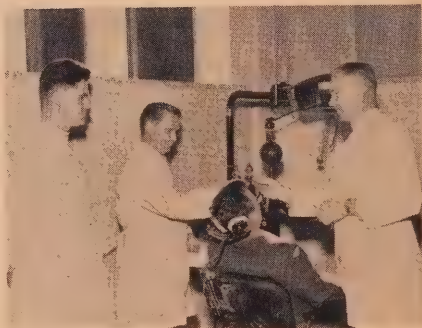
Quartermaster Sergeant Instructor Ralph Hall of Barrie supervises a class of highly specialized dental technicians.

Sgt. David Robertson, Niagara Falls, works on a chrome cobalt casting while WO II Ralph Hall looks on.



Sgt. Jack Sadler, Carleton Place, Ont., conducts a class in the preparation of odontulous casts.

Staff Sergeant Tom Batten, Glace Bay, NS, left, instructs Sgt. George Bradley, Pickering, Ont., right, in the use of a Ritter x-ray machine. Warrant Officer II Percy Jones of Winnipeg is in the chair.

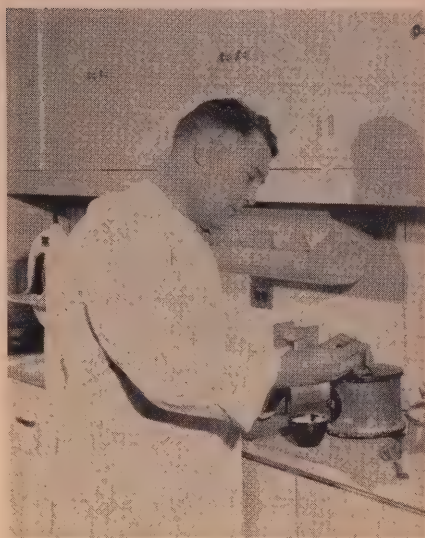


Among its many duties the school is responsible for conducting refresher courses for dental officers; turning out highly qualified craftsmen in the many dental trades; maintaining a program of investigation and research and studying the many problems of equipment and supplies peculiar to the services.

In Canada the Army's Dental Corps is also responsible for the dental care of the Navy and the Air Force. All service dentists and members of their staffs (with the exceptions of a few Air Women who have been trained as dental technicians and assistants) wear an Army uniform whether they serve on a ship at sea, with an infantry battalion in the field or at some remote air force base.

This creates an unusual problem that is capably dealt with at the RCDC School. Time is found for instruction in the traditions and procedures of all services with a result that members of the corps feel just as much at home in a navy ward room or an air force mess as they do with their own branch of the service.

Three or four dental courses are in operation continuously at Camp Borden.



Sgt. Douglas Mann, Niagara Falls, investing a gold veneer crown in the clinic laboratory.

These range from the basic course for dental assistants to the very exacting trade of laboratory technician. Graduates of this latter course are of senior NCO rank with many years of dental experience behind them.

As an example of the high standard maintained by the RCDC school a graduate dental technician, laboratory, group 4, would in civilian life be fully qualified and capable of taking over a supervisory position in a commercial laboratory.

The Royal Canadian Dental Corps has an establishment which, when at full strength, supplies a dental officer, exclusive of administrators, for every 750 men in the Navy, Army and Air Force. It is these officers, ably assisted by the craftsmen graduates of the school at Camp Borden who keep the sailors, soldiers and airmen of Canada's Armed Forces at such a high standard of dental health.



WO II Percy Jones lectures to a class of dental assistants. Classes are limited to about 12 students so that each candidate receives a good deal of personal instruction.

ABSTRACTS

Survey of Systemic Antibiotics

C. A. GREEN, M.B., CH.B., D.P.H., PH.D.

Penicillin, the first successful antibiotic, remains without question still the most useful and most widely used agent available to the medical, dental and veterinary professions. Discovered by Fleming (1929) who subsequently continued to use impure preparations of the drug for laboratory purposes, partial purification to a stage which permitted clinical trials by systemic therapy was brought about by Chain (1940) and Florey (1942).

Within the short space of eighteen years a truly remarkable variety of powerful chemotherapeutic agents have been derived from biological sources. After the initial efforts of Chain, Florey and Waksman, the greater part of this development has been attributable to the enterprise of the chemotherapeutic industry. However, the understandable practice of laying stress on trade names of individual products leads to confusion if practitioners and others fail to recognize the co-identity of drugs.

Penicillin remains the drug of choice in general practice for infections caused by sensitive organisms particularly now that effective oral therapy is available. The possibility of prior sensitization must be borne in mind and antihistamine drugs should be at hand to combat anaphylactoid reactions which, though uncommon, may otherwise be fatal.

The field of application for streptomycin should be restricted, as far as possible, to tuberculosis in which revolutionary progress in treatment has been made possible by this drug.

The tetracycline series including chlorotetracycline (aureomycin), oxytetracycline (terramycin), and tetracycline (achromycin) comprise the broad spectrum group to which erythromycin may be added. From the viewpoint of relative absence of the tendency to give rise to gastro-intestinal upset during therapy and from the infrequency with which resistant strains are encountered, chloromycetin has important advantages in the broad spectrum group. Unfortunately the appearance of blood dyscrasias in a small proportion of treated cases, a serious complication for which no specific remedy exists, has restricted the use of chloromycetin.

Apart from the question of the development of streptomycin resistant strains of mycobacteria, the main problem in antibiotic resistance relates to hospital cross-infection by staphylococci. A number of alternative drugs including erythromycin, novobiocin, oleandomycin and ristocetin has so far enabled the situation to be kept under control.

University of Durham Medical Gazette
Vol. LIII — Dec. 1958 — No. 1 (327)

Enjoy Your Child Patients

PETER T. GEORGE, D.D.S.

Editorial Note: Many dentists abhor the use of the "towel treatment." Regardless of size, we are still treating a human, one who is particularly vulnerable to psychological trauma.

One of the biggest problems in paedodontics is the handling of well-meaning parents. Many parents feel that since they know the child better than anyone else, they are in the best position to help with the management of the child.

Sometimes, it is difficult to convince the parents that it is in the child's best interest to leave him alone with the dentist. If logic does not persuade the parent, the dentist should state that his office policy is such and that he does not deviate from it.

When speaking to a parent, it should not be done secretly from the child. Make full explanations in the presence of the child. This creates a favourable impression on the child.

The child should receive the impression that the dentist is the sole authority in his office, and that everyone co-operates with him—parent, assistant and patient. Do not permit your assistant to assume any responsibility for the control of the child's behaviour.

The answers to a child's questions should be simple and comprehensible. The main reason for answering his questions is to assure him that you know what you are handling and have a reason for what you are doing.

There are children who have found that they can get out of almost any unpleasant situation by simply throwing a tantrum.

The child at this point must learn that there are certain situations in life which he will have to face, and that his will alone will not determine the course of action.

The unco-operative child patient should first be told in a stern voice to settle down and behave since nonsense is not tolerated in the office. If this does not bring the desired results the "towel treatment" should be employed next. This involves placing a towel firmly over the child's nose and mouth, and informing him that you will keep it there until he decides to settle down and behave. Never hold the towel more than ten seconds at a time, but repeat if necessary.

When applied properly, rarely does the towel treatment fail to bring about the desired results. If, however, after repeating it several times the patient is still unco-operative, as a last resort he should be held down with the aid of the assistant while the injection is given. It is imperative that the child not be dismissed without some treatment having been completed.

Anaesthesia should be used for all cavity preparations that are to receive permanent restorations. It is very difficult to carry out the principle of good cavity preparation while working on a child in pain, and even more serious, is the fact that it is nearly impossible to establish any rapport with a child on whom you are inflicting continual pain.

Following the injection the dentist should attempt to build up rapport with the patient. There should be no more pain and the dentist can now afford to become a little more familiar with the child. Engage him in a brief conversation before

beginning the cavity preparation. Inject a few compliments on his pretty blue eyes or new shoes.

While operating on a little patient, talk to him almost all the while about what you are doing. Keep it simple, of course, but don't worry too much if he doesn't understand every word. By talking to him this way, he feels that you are personally interested in him and rapport is improved.

The child should be given an inexpensive little gift at this time. One that makes a big hit with most little patients is a drop of mercury in an anaesthetic cartridge.

The purpose of the gift is not a reward for being good. The real reward is that

shiny new filling and better dental health. Each child should receive a little present whether he behaved well or not. The reason for the gift is to end the appointment on a happy note, and to help prove to the patient that the dentist's stern attitude at the beginning of the appointment was only for the good of the child. The patient will be happy to see that no ill-will remains and that the parting is friendly.

The challenge in paedodontics is threefold: (1) accomplish treatment; (2) make a better patient out of the child; and (3) please the parent. No dentist can claim to successfully treat children who does not accomplish all three.

Dental Survey
Vol. 35 — No. 1 — Jan. 1959

Dental Health and the World Health Organization

C. L. SEBELIUS, D.D.S., M.P.H.

It must be realized that the dental health programs of the World Health Organization are in the initial stages of development. Dental health practice, teaching, organization and services within the member countries are in varying degrees of implementation with differences found in administrative patterns and economic, cultural and social development. All of these factors contribute to the dental health picture as it is today.

The national dental associations working as the F.D.I. in fostering and assisting sound dental programs with governments and other agencies, should do much to

attack successfully the dental problems which confront them.

Dental health activities on a world-wide basis are expanding year by year. The development is taking place on a sound and evolutionary basis. Dental health activities are becoming a part of most public health programs. It is hoped that through the co-operation of all those interested in dental health, dental disease can gradually be brought under control as have some diseases which a few years ago were considered major public health problems.

International Dental Journal
Vol. 8 — No. 4 — Dec. 1958

Periodontics for the General Practitioner

ZAR A. READER, D.D.S.

After gingival treatment has been completed, and after the occlusion has been equilibrated, permanent splinting should be employed to stabilize any mobile teeth. If there are missing teeth fixed bridgework should be used to replace them whenever possible with one or more abutments on each end. Loose joints must be avoided! If partial dentures are to be used for replacement great care should be used in design so that the abutment teeth will not be injured; i.e., there should be an adequate number of clasps which are correctly designed and there should be adequate soft tissue coverage for support.

Most patients that have had extensive periodontal treatment should return every three or four months for thorough oral prophylaxis and for examination of gingival health, pocket depth, tooth mobility, etc. If necessary, returning periodontal problems can be treated and the occlusion readjusted. Complete dental films should

be taken annually. The patient must never be told that his case has been cured but rather he should be told that the case is controlled and it will only remain controlled in the future through his co-operation by proper home care and periodic examination and treatment by the dentist.

Because periodontal diseases are so universal, the general practitioner must recognize and treat them. The cases which are too involved may be referred to a periodontist. After the periodontal work is finished the periodontist may make suggestions to the referring dentist for mouth rehabilitation. The general practitioner should be especially interested in the prevention of periodontal disease with the same zeal which he has had in the prevention of dental caries. This can be accomplished only by patient education and immediate treatment of incipient periodontal alterations.

Michigan State Dental Assoc. Journal
Vol. 40 — No. 12 — Dec. 1958

A Comparison of the Properties and Uses of Silicate Cement and Acrylic Resin in Operative Dentistry

E. W. SKINNER, PH.D., Chicago

The operative dentist has not been as successful to date in his search for an aesthetic material as has been the prosthodontist. Neither the best silicate cement restoration nor the best acrylic resin filling can be said to approach the permanent qualities of a superior acrylic resin den-

ture from an aesthetic and service standpoint. Unfortunately, neither filling material is as satisfactory from a service standpoint as are most of the nonaesthetic restorative materials employed in operative dentistry.

It is possible that the quality of the res-

toration can be impaired by improper techniques, by ignorance of the basic reactions involved, and by a failure to interpret the physical properties correctly in reference to the indications for the use of the material and the design of the cavity preparation.

Most investigators appear to agree that any pulp disturbance occasioned by acrylic resin is reversible even though a cavity liner is not used. The choice of a cavity liner, if used, is largely limited to zinc phosphate cement. Any varnish is likely to impair the restoration since generally it will be attacked by the residual monomer. The use of phenol or any derivative including eugenol is to be avoided at all costs because of its action on the resin.

Although neither material is adequate in strength and hardness for all types of cavities, the silicate cement is definitely stronger and harder than the acrylic resin. Both materials shrink on setting, but the shrinkage of the acrylic resin is four times that of the silicate cement. Even assuming that the resin restoration recovers some of the lost dimension during water sorption, the high differential thermal ex-

pansion of the resin in comparison to that of the tooth causes percolation of mouth fluids. The possibility of eliminating this important undesirable feature appears to be remote at the present time.

The tendency of the acrylic resin restoration to discolour in the mouth is somewhat greater than is that of the silicate cement restoration.

The silicate cement gradually washes out in mouth fluids, whereas the acrylic resins are stable in this regard.

The silicate cement restoration generally is effective in preventing the recurrence of caries and the present acrylic resin restoration, generally speaking, is not. The acrylic resin, per se, is less damaging to the pulp than is silicate cement.

If all of the aforementioned points are rated equally, the silicate cement restoration is superior to the acrylic resin restoration in four of the six points mentioned. When the factor of percolation in connection with the acrylic resin restoration is considered, it is doubtful that acrylic resin should be employed in operative dentistry as a tooth restorative.

Journal of the American Dental Ass'n.
Vol. 58 — No. 1 — Jan. 1959

Permanent Tooth Mortality: A Clinical Study of Causes of Loss

HAROLD W. KROGH, D.D.S., Washington, D.C.

Data were analyzed on causes of mortality of permanent teeth extracted in a private oral surgery practice in Washington, D.C., during a one-year period. A total of 7,109 teeth removed in 744 males and 1,593 females of middle economic status were selected for study.

Approximately 40 per cent of the total tooth loss was caused by dental caries and 20 per cent by periodontal disease. Pros-

thetic reasons also accounted for 20 per cent of the teeth loss.

On a cumulative basis, dental caries exceeded periodontal disease as cause of permanent tooth mortality in each decade of life up to ages of 60 to 69. However, as might be expected, losses because of dental caries tended to occur at earlier ages than those from periodontal disease.

Males and females lost approximately

equal percentages of teeth from dental caries. Males lost substantially more from periodontal disease than did females, and the reverse was true of loss for prosthetic reasons.

At all ages, 53.4 per cent of sound teeth extracted for prosthetic reasons were considered secondary to extractions for dental caries; 19.0 per cent to periodontal disease; and 27.6 per cent to other causes such as attrition, removal to facilitate operative procedures or radiation of tumours.

Caries led periodontal disease as the

cause of extraction in all except four tooth types, three of these in the mandible. Prosthetic extractions accounted for loss of more maxillary central incisors and of more mandibular cuspids than did periodontal disease, also for loss of more maxillary cuspids than either caries or periodontal disease.

On the whole, males retained their teeth about two years longer than did females, with the exception of the lower anterior teeth in the mandible.

The Journal of the American Dental Association
Vol. 57 — No. 5 — November 1958

Pits 'n' Fissures

Dental Division, Indiana State Board of Health

There is no clinical evidence available in the literature to support the use of fluoride tablets in the prevention of dental caries. Thus, this method is based entirely on presumptive evidence rather than actual studies. It seems only logical that any new anticariogenic technique should be thoroughly tested in human subjects before it is even considered for routine use.

There are several inherent problems with this approach for the use of fluorides. The supplemental fluoride would have to be co-ordinated with the fluoride content of the specific water supply involved. The parent must realize the need for careful regulation of the daily intake so that over- or under-dosage is not given. Also, since the amount of water consumed away from home cannot be determined, accurate intake becomes a difficult if not impossible task.

Careless storage of concentrated fluorides in the home might result in accidental poisoning of children.

Since clinical evidence is not available to support this use of fluorides, the family might obtain a false sense of security which could cause them to relax on good dental health habits and regular visits to their dentist.

None of the procedures for individual administration of fluoride supplements, completely duplicates the situation which exists when the entire community water supply contains fluoride. Fluorides in water have been time tested through more than 50 years of scientific study.

For individuals not on fluoridated water supplies, the topical application of stannous fluoride is recommended. Our recent studies indicate that a single application per year of an 8% SnF₂ solution is 30-40% more effective than four applications of 2% sodium fluoride. These SnF₂ treatments may be given once each year or made to coincide with the recall system.

The Journal of the Indiana State
Dental Ass'n.
Vol. 37 — No. 10 — Dec. 1958

EDITORIAL

The Eyesight of Canadian Dentistry

Enlightened self-interest alone should compel us to know our Canadian Dental Association.

The Canadian Dental Association is almost 57 years old. There are practising Canadian dentists, many of them, who know essentially nothing about their Association. This fact should make us blush and would make the founders of the Canadian Dental Association shudder.

The Fathers of Dental Confederation, some 200 in all, were possessed with a wisdom and foresight common to "founders" for which we who are of more recent times should be truly thankful.

Canada's immenseness did not hide from the 200 the potential and mounting need for dental unity. It is difficult to imagine how such foresight was possible at a time when the dental population was less than one sixth of today's.

The University of Montreal was the site of the inaugural meeting in 1902. Shedding themselves of pettiness and motivated only by the highest altruistic principles, coupled assuredly with a generous portion of grim determination, these few men laid the Association's foundation.

Stripped of all ornaments, a code of ethics was established and two main projects were undertaken. The first project was the establishment of a National Dental

Health Council from which a certificate could permit a dentist to practise in any province. Although there might be some slight legal complication in one province, essentially this undertaking has been accomplished. Their second project, the formation of a Dental Corps, like many similar worthy ideas, required the impetus of critical circumstances. Not until the beginning of the Second World War was the Royal Canadian Dental Corps realized.

To itself in 1934, the C.D.A. added a national Journal whose pages in French and English sedulously strive to depict the many changing facets of Canadian dentistry.

By the mid-thirties, the needs and benefits of dental unity were more fully appreciated. But approval and appreciation do not always result in support. Every successful organization welcomes approbation but, without money, cannot survive. Thus far the Association's solvency depended upon individual loyalty from whence came irregular donations.

Linking of the provincial legal bodies as Corporate members in 1942, rescued this situation. Again collective reasoning provided a workable solution. Annually, each provincial legal body (Corporate Member) determined to submit a list of names for membership in the C.D.A. to-

gether with a grant based upon the number of members submitted. Association solvency and almost complete enrolment of Canadian dentists resulted.

The reorganizing of the C.D.A. in 1942 permitted fair and truly representative administration of this voluntary body. Each Corporate Member (provincial governing body) automatically sends one representative to the Board of Governors and an additional representative for each 500 members or major portion (251 or more) thereof. A list of members of the Board of Governors is published each month in the directory of the Journal.

An annual convention is held in a different location each year. Your Board of Governors, for four days prior to each convention, meets to study and evaluate and improve every possible phase of dentistry in the light of intelligent reasoning. Before them are brought reports of some 24 committees. Each report contains a synopsis of the year's work along with the recommendations and resolutions for the year ahead. At this time the Board members along with the appointed men and association members in attendance, are divided into reference groups to study each report in detail. It might be well to note here that all members of the C.D.A. are not only welcome to attend the Board of Governors meetings but are encouraged to do so and to actively participate. The reports of these reference committees are brought back to the Board of Governors, and discussed, accepted or rejected in accordance with their wisdom. To assure that only the truly elected representatives will make the decisions, the voting is done by only the Board Members.

Evaluating the Association in terms of individual benefit and overall purpose should for the thinking practitioner be quite unnecessary. The C.D.A. serves only in a consultative capacity. An intelligent public and a wary government will give audience to an organization such as this, which is a happy marriage of all dental

legal bodies and whose membership includes almost every Canadian dentist.

We have reached a new plateau in governmental and public reaction to health matters. In order that dentists can adapt to these new conditions and still serve with optimal benefits to the public, we must be able to speak with a national voice. From this representative body, the provincial governments can learn our wishes with respect to Federal Health Plans.

It is not always wise to co-operate in our own way. Unilateral action on the part of small dental groups, or lack of general unity, in times such as these, could have chaotic results to the public and to our profession.

Tangibly, the C.D.A. serves us in every way. In dollars alone its services are duly reflected in income tax benefits and the elimination of duty on numerous dental materials. Intangibly, it is the eyesight of dentistry perceiving the needs of Canadian dentists but seeing even more vividly the needs of the Canadian public.

Most of the founders of the C.D.A. are dead. Their aims and ideals live on, amplified and streamlined by the dictates of modern times, but fundamentally unchanged. Their satisfaction would be great had they lived. In 1959 they would have seen the fruits of their two main projects. The Royal Canadian Dental Corps is an example to the world in its efficiency of administration and effectiveness of treatment for men in the services. The National Dental Examining Board of Canada would have satisfied even the most demanding founder. The Provincial Licensing bodies acting through the N.D.E.B. of Canada, provide a means whereby the profession retains control of the educational requirements of its members, which might otherwise be delegated to individuals outside the profession.

Canadian dentists of today owe it to their founders, to the public and to themselves to understand and uphold the basic principles and philosophies of their C.D.A.

BOOK REVIEW

Pathology for Students of Dentistry. Prepared by: George L. Montgomery
Obtainable from: The Macmillan Company of Canada Ltd.
Pages: 307 \$6.75

In presenting the subject of general pathology to students of dentistry the author has kept in mind the necessity of emphasizing essentials. These are supplemented by discussions of a few of the important disease entities that illustrate the need for the dentist's appreciation of their effects on the patient as a whole.

The bulk of the text is devoted to explaining the general principles involved in the reactions of tissues in various pathological states. Where possible, examples are used illustrating the condition in dental tissues which lends emphasis and local colour to the point in question. The author leads us through a discussion of the processes of inflammation and repair and the fundamentals of allergy and immunology to a consideration of basic phenomena in circu-

latory disturbances. This is followed by four chapters dealing with the cause and spread and other features of tumours. The remaining five chapters are devoted to the special pathology of the circulatory and respiratory systems, the lymphatic system, diseases of the blood, and peptic ulcer.

The text, while not exhaustive, is a well-balanced coverage of general pathology and adequate for dental students if supplemented by additional reading in specific situations where more extensive knowledge may be required.

There are two thoughts that arise in reviewing the scope of this book. While recognizing the value of not overexpanding the text, nevertheless consideration might be given to including a short comment on the effects of radiation injury, and on the role of genetics in initiating disease.

All in all, the author has achieved his objective very well in presenting the fundamentals of general pathology.

H. A. Hunter.

THE LIBRARY

ADDITIONS

DAVIES, G. N. Ed.: Dental health; a manual for teachers and nurses. New Zealand Dental Association, Council on Dental Health Education. 1958. 30 p. illus.

DIETRICH, Dr. F. W.: The history of dentistry in Arkansas; a story of progress. Camden, Arkansas, The Hurley Co., Inc. 1957. 397 p. illus. \$10.00.

GROSSMAN, L. I.: Lippincott's handbook of dental practice. 3rd ed. Montreal, J. B. Lippincott Co. 1958. 534 p. illus. \$14.00.

JELENKO, J. F. & Co., Inc.: Crown and bridge construction. 3rd ed. New York, 1957. 148 p. illus.

KETTERING LABORATORY, CINCINNATI: The occurrence and biological effects of fluorine compounds; annotated bibliography. Vol. 1, pt. 1: inorganic compounds. Prepared by Irene R. Campbell and Evelyn M. Widner, with the assistance of Irene P. Kakainis. Cincinnati, 1958. 507 p.

MEYER, I.: Osteoradionecrosis of the jaws. (Practical dental monographs, November 1958.) Chicago, The Year Book Publishers, Inc., 51 p. illus.

MINER, L. M. S.: Dental assistant. Boston, Research Publishing Co., Inc. 1957. 31 p. illus. \$1.50.

THE ASSOCIATION

Regulations Governing the Award of Studentships

1. The Canadian Dental Association, through its Research Committee, offers financial assistance in the form of "Studentships" to graduate or undergraduate dental students who desire to prepare themselves further for careers in research and teaching by continuing studies in the sciences fundamental to their research fields, or by acquiring preliminary training in a research laboratory. Studentships are not intended to provide opportunities for graduates in dentistry to prepare themselves as specialists in any field of dental practice.

2. Studentships are available on equal terms to men and women who have given evidence of capacity for original research or who have won high distinction in scientific study during their University training, for the specific purposes of:

a) an academic year of special study in the fundamental sciences at a recognized University. Such grants will be made on an annual basis, and applications for renewal will be considered.

b) summer or part-time employment in the capacity of an assistant in a recognized research laboratory.

c) consultation with recognized authorities in the field in which the applicant is working or to permit attendance at special meetings of research workers in the field in which the applicant is working.

3. Applications for Studentships must be submitted to the Research Committee of the Canadian Dental Association through the C.D.A. Secretary, not later than May 1st.

Only under exceptional circumstances will consideration be given applications received after that date.

4. Each application must be accompanied by a transcript of the candidate's University record, a statement from his sponsor (such as the Dean of a Dental school or the head of a scientific department within a university) supporting the application, and a statement from the head of the institution at which the candidate intends to train, indicating that the applicant will be accepted. In addition, information relative to the financial status and needs of the applicant must be submitted in detail.

5. That portion of the Studentship granted for living expenses will be paid in equal monthly instalments during the term of the Studentship.

6. Interim reports of the student's progress will be requested from the Dean of the school or head of the department in which the student is studying. In addition a final detailed report prepared by the student and supported by the Dean of the school or head of the department must be submitted to the Association to complete the tenure of the Studentship.

7. The Canadian Dental Association reserves the right to discontinue a Studentship if progress reports are unsatisfactory, provided reasonable warning is given the student.

Address all communications and requests for forms, to the Secretary, Canadian Dental Association, 234 St. George St., Toronto, Ontario.

THE CANADIAN DENTAL ASSOCIATION ANNUAL CONVENTION

Nova Scotian Hotel

Halifax, Nova Scotia

June 21-24, 1959

THE DENTAL STUDENTS' REGISTER

1958 - 1959

HIGHLIGHTS FROM DENTAL STUDENTS' REGISTER

For the first time in over thirty years, the admission of a class to a new Canadian dental school is reported — Faculty of Dentistry, University of Manitoba.

Enrolment

The number of Canadian dental students has increased by 37 as compared to last year. The increase is mainly accounted for through the acceptance of the first class at the new Manitoba school. In view of the new building at Toronto the admissions to the first year increased from 80 to 90. The number of women students increased from 25 reported last year to 36 this year.

Dental Hygiene

In spite of the existing demand for dental hygienists only one course exists to date and unfortunately the number of students in dental hygiene is less than reported last year.

Graduates

During 1958 there were 203 graduates from Canadian dental schools. This number, when related to the indicated number of deaths and retirements together with the estimated increase in population for the current year will result in probable worsening of ratio of dentists to population.

United States

Some 93 students from countries other than Canada are in attendance in the schools this year, which is an increased number over last year when there were 70. There are 43 Canadian students presently attending dental schools in the United States and 50 American students attending Canadian dental schools.

Best Ratio

Ontario has the highest percentage and the best ratio of dental students to the population of any province.

Increased Capacity

The total capacity for dental students in a class is increased this year from 205 (reported last year) to 263.

Increased Cost of Tuition

A rise in the four-year cost of tuition, instruments, textbooks, supplies and incidentals is reported. It varies from a maximum of \$2,340.00 to a maximum of \$4,020.00.

Varying Ratio of Applicants

The number of applicants to study dentistry was slightly higher for three schools and lower for two schools this year as compared to last year.

TABLE I
ENROLMENT—1958-59 Term

	UNDERGRADUATES							OTHER STUDENTS				
	Freshmen	Sophomores	Juniors	Seniors	Men	Women	Total	*Graduate	†Post-Graduate	‡Occasional	Dental Hygiene	
											1st yr.	2nd yr.
Dalhousie...	14	12	12	17	52	3	55					
McGill...	38	32	38	36	137	7	144					
Montreal...	57	34	48	39	174	4	178					
Toronto...	90	76	79	74	300	19	319	2	5	3	5	9
Manitoba...	21				20	1	21					
Alberta....	30	27	26	24	105	2	107					
Total....	250	181	203	190	788	36	824	2	20	8	5	9

*"Graduate" refers to dental graduates registered in the Graduate School of a university, proceeding to a degree.

†"Post-Graduate" refers to dental graduates registered in a dental faculty proceeding to a degree, diploma, or certificate.

‡"Occasional" refers to dental graduates registered in a dental faculty for courses of varying duration not proceeding to a degree, diploma, or certificate.

TABLE II
RECORD OF UNDERGRADUATE ENROLMENT

	1940-41	1950-51	1955-56	1956-57	1957-58	1958-59
Dalhousie.....	31	48	47	47	53	55
McGill.....	58	145	136	137	141	144
Montreal.....	104	196	161	184	176	178
Toronto.....	210	380	310	305	310	319
Manitoba.....						21
Alberta.....	51	114	115	112	107	107
Total.....	454	883	769	785	787	824

TABLE III
TOTAL NUMBER OF GRADUATES

	1940	1950	1955	1956	1957	1958
Dalhousie.....	12	11	13	13	11	16
McGill.....	13	36	35	33	29	34
Montreal.....	23	42	19	20	34	49
Toronto.....	56	168	78	76	78	75
Alberta.....	13	49	29	26	34	29
Total.....	117	306	174	168	186	203

1958 Graduates

Male Female

Dalhousie.....	15	1
McGill.....	34	0
Montreal.....	49	0
Toronto.....	72	3
Alberta.....	29	0
Total.....	199	4

TABLE IV
DISTRIBUTION OF UNDERGRADUATE STUDENTS BY HOME PROVINCES
AND FOREIGN COUNTRIES

	Newfoundland	Prince Edward Island	Nova Scotia	New Brunswick	Quebec	Ontario	Manitoba	Saskatchewan	Alberta	British Columbia	United States	British West Indies	Bermuda	British Guiana	Hong Kong	Australia	Great Britain	Europe	Others	Totals
Dalhousie University....	9	1	18	14		2	1			3	1		1			3	1	1		55
McGill University....	2		1	2	48	14	3	4		9	4	7	1	2	2		2	2	1	144
University of Montreal...		1		7	163	3		2			2									178
University of Toronto....						274	10	4		14	1	1			1	3		10	1	319
University of Manitoba..							13	3		2	1				1				1	21
University of Alberta....							5	22	58	19	1			1					1	107
Totals.....	11	2	19	23	211	293	32	35	58	47	50	8	2	3	4	6	3	13	4	824

TABLE V

A—PERCENTAGE OF CANADIAN DENTAL SCHOOL STUDENTS FROM EACH PROVINCE
B—RATIO OF STUDENTS TO POPULATION OF HOME PROVINCES

Home Province	Percentage	*Ratio
Newfoundland.....	1.33	1/39,818
Prince Edward Island.....	.24	1/50,000
Nova Scotia.....	2.31	1/37,368
New Brunswick.....	2.79	1/25,087
Quebec.....	25.61	1/23,147
Ontario.....	35.56	1/19,805
Manitoba.....	3.88	1/27,188
Saskatchewan.....	4.25	1/25,371
Alberta.....	7.04	1/20,707
British Columbia.....	5.70	1/32,851
Canada.....		1/20,689
Other Countries.....	11.29	

*Population figures used were supplied by the Dominion Bureau of Statistics, as of June 1, 1958.

Note: Students from Canada attending dental schools in the United States have not been included in computing this table.

Canadians enrolled in American Dental Schools:

Alberta.....	8
British Columbia.....	18
Manitoba.....	3
New Brunswick.....	2
Ontario.....	7
Saskatchewan.....	5
Total.....	43

TABLE VI

PRE-DENTAL TRAINING OF UNDERGRADUATES

	2 Years	3 Years	4 Years	Canadian Degree		Degree From Outside Canada	
				Bachelor	Other	Bachelor	Other
Dalhousie.....	19	3	3	23	—	—	5
McGill.....	25	16	9	50	1	37	6
Montreal.....	—	—	—	162	5	6	5
Toronto.....	181	41	35	33	15	3	11
Manitoba.....	5	6	2	5	1	2	—
Alberta.....	66	19	15	6	—	1	—

TABLE VII

GRADUATES WITH PRIOR BACHELOR'S DEGREE

Class of 1958	Total Grads	Bachelor's Degree		Percentage	
Dalhousie.....	16	5		31	
McGill.....	34	25		73	
Montreal.....	49	48		98	
Toronto.....	75	14		19	
Alberta.....	29	8		28	
Total.....	203	100		49	

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Can students earn bachelor's degree during dental study, thus graduating with both a bachelor's and a dental degree?.....	Yes	Yes	No	No	Yes	Yes
How many 1958 graduates did this?.....	—	4	—	—	—	—

TABLE VIII
DATES OF ADMISSION AND GRADUATION

	1958-1959		1959-1960		Freshman Application should be filed by
	Admission	Graduation	Admission	Graduation	
Dalhousie.....	Sept. 3	May 14	Sept. 9	May 15	May 30/59
McGill.....	Sept. 8	May 28	Sept. 9	May 29	March 1/59
Montreal.....	Sept. 9	May 30	Sept. 8	May 29	Aug. 1/59
Toronto.....	Sept. 24	May 27	Sept. 23	May 26	June 1/59
Manitoba.....	Sept. 8	May 20	Sept. 9	May 21	April 30/59
Alberta.....	Sept. 2	May 15	Sept. 1	May 18	April 15/59

TABLE IX
CAPACITY PER UNDERGRADUATE CLASS

Dalhousie.....	25
McGill.....	38
Montreal.....	60
Toronto.....	80
Manitoba.....	30
Alberta.....	30
Total Canada.....	263

TABLE X
ESTIMATED AVERAGE COST FOR 4-YEAR COURSE

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Tuition.....	\$1,680.00	\$2,400.00	\$1,900.00	\$2,200.00	\$1,800.00	\$ 1,500.00
Instruments.....	960.00	1,620.00	894.00	1,025.00	1,000.00	452.00
Textbooks.....	185.00	incl. with Instruments	226.00	200.00	400.00	218.00
Supplies.....	70.00	incl. with instruments	280.00	45.00	100.00	643.00
Incidentals.....	175.00	incl. with Instruments	67.00	400.00	100.00	100.00
Total.....	3,070.00	4,020.00	3,367.00	3,870.00	3,400.00	2,913.00
Room & Board.....	2,500.00	*3,000.00	3,500.00	2,500.00	2,200.00	2,340.00

*University Residence.

TABLE XI
STUDENT ASSISTANCE

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Undergraduate Scholarships Available.....	Yes	Yes	Yes	Yes	Yes	Yes
Loans Available For Undergraduates.....	Yes	Yes	Yes	Yes	Yes	Yes
Graduate Scholarships Or Fellowships Available.	No	No	No	Yes	No	Yes

TABLE XII
ADMISSION WITH ADVANCED STANDING

	Dalhousie	McGill	Montreal	Toronto	Manitoba	Alberta
Will admit Graduates with advanced standing from outside Canada.....	Yes	Yes	Yes	Yes	Yes	Yes
Number of Present Undergraduates in this Category.....	6	5	4	15	—	3
Number of these Students from:						
Australia.....	3			3		
Bulgaria.....			1	10		
Europe.....						2
Germany.....		2				
Greece.....						
Hong Kong.....				1		
Hungary.....				1		
Panama.....				1		
Poland.....			1			
Lithuania.....	1	2				
Roumania.....			1			
Turkey.....			1			
United Kingdom.....	2	1				
Yugoslavia.....						1

WESTERN CANADA DENTAL SOCIETY 1959 CONVENTION

Banff Springs Hotel

Banff, Alberta

May 31st, June 1st, 2nd, 3rd

Essayists

- Col. Robert Shira —Chief, ORAL SURGERY Section, Walter Reed Medical Centre, Washington, D.C.
- Dr. Maury Massler —Head, Dept. of PEDODONTICS, University of Illinois, Chicago, Illinois.
- Dr. George Hughes —Head, Dept. of PROSTHODONTICS, University of California, San Francisco.

and lectures by:

- Dr. John W. Neilson—Dean of Dentistry, University of Manitoba.
- Dr. Floyd Jacobson —Head, Dept. of Oral Diagnosis, University of Washington.

For accommodations write: Dr. T. A. Alexander, 901 Greyhound Bldg., Calgary, Alberta.

NATIONAL CONVENTION — ART EXHIBIT

Many originals by the famous Dentist-Artist—Dr. Solot of Paris, France—are being brought to Canada for our 1959 Convention.

These paintings are unique, and are being sought by Dental groups the world over.

Mystery in Art and Science—The most beautiful thing we can experience is the mysterious. It is the source of all true art and science. He to whom this emotion is a stranger, who can no longer pause to wonder and stand rapt in awe, is as good as dead: his eyes are closed . . . To know that what is impenetrable to us really exists, manifesting itself as the highest wisdom and the most radiant beauty only in their most primitive forms—this knowledge, this feeling, is at the centre of true religiousness. In this sense, and in this sense only, I belong in the ranks of devoutly religious men. *Albert Einstein*.

**THE CANADIAN DENTAL ASSOCIATION
57th NATIONAL CONVENTION
June 21 - 24, 1959**



THE NOVA SCOTIAN HOTEL

PLAN NOW TO ATTEND

Clinicians and Essayists Include:

- | | |
|-----------------------|---|
| Dr. V. L. Steffel | —Ohio State University—"Simplified Clasp Partial Dentures Designed for Maximum Function" |
| Dr. H. D. Millard | —University of Michigan—"A Discussion of Common Kinds of Stomatitis" |
| Dr. G. C. Hare | —University of Toronto—"Emergency Endodontic Treatment for Children" |
| Dr. Paul Geoffrion | —University of Montreal—"Grieve Memorial Lecture" |
| Dr. James P. Coupland | —"Oral Surgery" |
| Dr. J. G. Kaplan | —Dalhousie University — "Address upon the Centenary Publication of the 'Origin of the Species' by Charles Darwin" |

Registration Fee — \$35.00 Wife \$5.00

Registration Chairman: Dr. Carl E. Dexter,
5 Dutch Village Road,
Halifax, Nova Scotia.

THE CORPS

Dental Officer Attends Royal Banquet

R.C.D.C. officers serving with the United Nations Emergency Force in the Middle East face many adverse conditions, but life also has its interesting moments.

The following Canadian Army press release describes an interesting experience which happened to Captain J. J. N. Wright of Calgary recently:

"Rafah, Egypt, Dec. 30—The most surprised guests at a royal birthday party for King Hussein of Jordan were two Canadian Army Officers serving in the Middle East with the United Nations Emergency Force.

Captain James J. N. Wright, of Calgary, Alta., a dental officer and Captain J. W. McGowan, of Ottawa, a signals officer, were on a conducted tour of Jerusalem and the Holy Land when they had the chance to extend their trip to Amman, the Jordanian capital. While they were being shown the royal palace, the King's aide-camp asked if the Canadians, and three Scandinavian officers with them, would like to speak to the ruler. King Hussein chatted warmly and informally with them and arranged for the group to be photographed with him. He then announced that it was his birthday and invited his visitors to join him in the traditional feast rendered to him annually by the Arab Legion.

The glittering banquet hall was filled with colourfully garbed Arab dignitaries and the tables laden with a rich assortment of exotic food.

After the party the UNEF officers paid their respects to the youthful monarch and he personally escorted them to the palace steps where he bade them farewell."

* * * *

R.C.D.C. Officers Attend Courses in U.S.A.

The following R.C.D.C. officers have recently attended or are attending courses in the U.S.A.:

Major P. H. Guevremont, St. Hubert, Que.

—Partial Dentures at the U. S. Navy Dental School, Bethesda, Maryland.

Major J. E. Lauziere, Camp Shilo, Man.—Periodontics at Northwestern University, Chicago, Illinois.

Major L. A. Richardson, Edmonton, Alta.—Oral Surgery at the U. S. Navy Dental School, Bethesda, Maryland.

Major J. W. Turner, Calgary, Alta.—Advanced Dentistry at the Walter Reed Army Institute of Research, Walter Reed Army Medical Centre, Washington, D.C.

Captain N. S. Gage, Kingston, Ont.—Complete Dentures at the University of Michigan, Ann Arbor, Michigan.

Brig. K. M. Baird Visits RCAF Stations

Brigadier Kenneth M. Baird, Director-General of Dental Services for the Department of National Defence, visited RCAF installations in Manitoba and Saskatchewan. Brigadier Baird arrived in Portage la Prairie on November 21st to begin his ten-day visit. During his stay he was accompanied by Lt. Col. Carl E. Purdy, senior dental officer at Prairie Command headquarters, Winnipeg.

Taste for Reading—The best preventative of gossip and talebearing—the common recreation of the idle and the ignorant, and the bane of those good feelings and kind offices which sweeten and augment the pleasures of a good neighbourhood—is to inculcate, early in life, a taste for useful reading. Books remind us of our duties and afford useful employment for the mind in hours of rest or of leisure; and when the habit of reading is once acquired, its pleasures and advantages become more and more perceptible and enticing, as we advance in useful knowledge. *Jesse Buel (1837)*

THE PROVINCES

ALBERTA

Federal Grant

The federal health department announced recently a \$2,300 federal grant to help meet costs of seminars on children's dentistry for practising dentists in Alberta.

The refresher courses, organized in cooperation with the Alberta Dental Association will concentrate on new methods in treatment of children. Courses will be given in Lethbridge, Medicine Hat, Red Deer, Grande Prairie, Calgary and Edmonton.

BRITISH COLUMBIA

Vancouver and District Dental Society

The new year was ushered in by a successful gathering on January 6 with cocktails before dinner. Most of the crowd came to dine in order to be sociable and also provide a holiday for the wives, but several attended only the evening lecture.

Lively interest was evinced at the business session, and there were even some "wise-cracks" from the audience which created a fraternal atmosphere. Reports were given by Dr. Irving Snider for the B. C. Academy of Dentistry, Dr. Wesley Munsie for the College, and Dr. A. E. Swanson for the proposed buffet dance on February 28. The membership convener, Dr. Ken Murchie, Jr., announced a total of 320 paid-up members, with 14 additional men who are participating in meetings and study clubs although still in arrears. Dr. Margaret Maclean of the sick and visiting committee gave the society's members a clean bill of health.

Dr. Walter Sproule introduced the after-dinner speaker, Dr. Wm. H. Hagen of Seattle who continued his afternoon discourse on "Present-Day Concept of Porcelain Technique." The lecturer, who is well known to many Vancouverites, is on the staff of the Washington University Dental School and is outstanding in the field of dental ceramics.

Colored slides were used to delineate interesting problems in porcelain work and the portrayal made the intricate procedures appear simple. Dr. Hagen emphasized the

necessity for a good preparation, a good impression, a good working model and a good die.

After a brief question period Dr. Joe Merrill warmly thanked the essayist for his valuable contribution to our knowledge of one of the most exacting branches of dentistry.

D. H. M.

MANITOBA

Winnipeg Dental Society

The fall clinical season of the Winnipeg Dental Society featured Dr. Ralph Phillips from Indiana University in October, and Drs. J. Ludwig and George Brass from Winnipeg in November.

Both these meetings were an unqualified success as far as the wealth of material presented by the speakers. Dr. Phillips further enhanced his reputation of being one of the top men in Dental Materials Research by very concisely covering most of the newer materials that have been introduced in such large numbers over the past few years. Through his own unbiased research work he was able to discount many of the optimistic claims made by the manufacturers of these products. But he was also able to show that many of these materials, if used properly and with an understanding of their limitations, have a very definite place in dentistry and do much to improve the quality of treatment rendered.

One of the features of this meeting was the attendance of the first year class of dental students during the afternoon session. This was the first time our Society had had the opportunity of extending its facilities to the new Dental School and it is hoped there will be many future opportunities when the Society and the School will be of mutual benefit.

Dr. Joseph Ludwig with both M.D. and D.D.S. degrees is a man well qualified to speak on Hospital Operating Room Procedures. This he did through the medium of excellent slides and movie films, showing each phase from the original scrub-up, maintaining sterility, through to the necessary care of the patient after the operation. He

also showed many reconstruction type cases that he encounters as a plastic surgeon and illustrated how the dental knowledge he had, helped to bring about extremely good results. Dr. Brass being the Head of the Operative Department at the Manitoba Dental School had much of interest to offer to the meeting. He followed through on several of the materials Dr. Phillips had spoken about and illustrated their good and bad "points" under actual working conditions in the mouth.

Dr. George Danzinger, the Clinic Chairman of the Society looked after the clinical part of the Meetings and Dr. Muni Averbach, the Society President, chaired the business meetings which were held at the luncheon recess.

Manitoba Dental Association

The Board of Directors of The Manitoba Dental Association announces the resignation of Dr. Z. Kasloff from the Board. Dr. Kasloff has left private practice to do post-graduate study at Indiana University and eventually to return to the Faculty of Dentistry at the University of Manitoba.

Dr. F. W. Jones, of Winnipeg, has been appointed to fill the vacancy on the Board in accordance with the Dental Association Act. Dr. Jones is a Past-president of the Winnipeg Dental Society, served as secretary of the Western Canada Dental Society and has acted on many committees dealing with dental problems. He will complete Dr. Kasloff's term which ends next year.

New Secretary-Registrar

Dr. J. O. Brown's resignation as Secretary-Treasurer, and Registrar has been accepted with regret by the Board of the Manitoba Dental Association. Dr. Brown has held the position since 1956 and a great deal of credit must go to him for the reorganization of the business office so that the immense amount of detail work is looked after promptly and efficiently. This has allowed the Board to take on and complete many necessary tasks for the benefit of dentistry in Manitoba. Dr. Brown took the job on an interim basis in order to help overcome a difficult condition and now he feels that he has in some measure accomplished this so he wished to devote more of his time to his private life and practice. His efforts on behalf of the Manitoba Dental Association are gratefully acknowledged.

Dr. W. Gordon Campbell has been appointed to succeed Dr. Brown as Secretary-Treasurer, Registrar, with his duties commencing February 1st, 1959. The Manitoba Association is indeed fortunate in being able to obtain a man of Dr. Campbell's accom-



DR. W. GORDON CAMPBELL
Secretary-Registrar-Treasurer
of the Manitoba Dental Association

plishments to take over this responsible and time consuming job.

Dr. Campbell was born and educated in Winnipeg. He received his D.D.S. degree from Minnesota Dental School in 1931 and his M.P.H. degree from the University of Michigan in 1947. He served an internship at the Minneapolis General Hospital.

Gordon had the very unique distinction of being on the teaching staff of the College of Medicine and Dentistry, West China Union University, Chengtu, during the period of 1936 to 1943. His experiences there undoubtedly increased his professional knowledge, but they also gave him a great appetite for Chinese food and the ability to consume it with chop sticks. This ability constantly astounds his friends.

Gordon served with the Royal Canadian Dental Corps from 1943 to 1946 and has been with the Militia branch of the Dental Corps since 1948. At the present time he is Commanding Officer of the dental militia unit in his military district.

He served on the executive of the Winnipeg Dental Society for six years and was President in 1956-57. He is a Fellow of the W. K. Kellogg Foundation and a Fellow of the International College of Dentists. His practice in Winnipeg is mainly limited to children's work and he is on the staff of the Shriners' Hospital.

As can be seen, Gordon has always been a tireless worker on behalf of his profession and has put in a tremendous amount of time and effort in many different committees and organizations. These efforts have won him the respect of every dentist he has come in contact with and make him extremely well qualified to take over his new duties.

J. P. B.

NEW BRUNSWICK

New Brunswick Dental Society

The sixty-third Annual Meeting of the New Brunswick Dental Society was held at the Admiral Beatty Hotel in Saint John, N.B. on the 15th November 1958. There were over forty dentists in attendance. Dr. S. K. Wetmore of Lancaster was chairman of the meeting and the guest speaker at the luncheon was Dr. George M. Dewis of Halifax, the President of the Canadian Dental Association. At the luncheon, which was sponsored by the Saint John Dental Society, Dr. Langstroth of the Department of Health for New Brunswick, presented an Honorary Life Membership certificate to Dr. John Leonard of Saint John on his completion of fifty years of active practice. Dr. Dewis was introduced by Dr. A. J. Coughlan a past president of the Canadian Dental Association. Dr. Dewis in his remarks covered many subjects including the Retirement Savings Plan, the D.V.A. Scale of dental fees, the introduction of a Past Presidents' meeting, the forthcoming Provincial Secretaries' conference, the status of Dentistry in Hospital Insurance and the perennial subject of Fluoridation of communal water supplies.

The usual routine of business with reports from the various committees was heard and pertinent matters discussed and acted upon. The post-payment plan as presented by the C.D.A. was accepted in principle and a committee appointed for details and action. The annual student prize presented by the Society to the Dental Faculty of Dalhousie was raised to fifty dollars. A donation of \$100.00 was made to the Springhill Disaster Relief Fund. Dr. A. J. Coughlan was made the Honorary Life President of the New Brunswick Dental Society and ex officio member of the Council with full privileges. Another motion of interest was that Dr. Frank Godsoe would soon be celebrating his 75th anniversary of graduation as a dentist, so the council was empowered to make a suitable presentation. Dr. Godsoe graduated from Boston Dental College in 1883 and was a delegate at the formation of the C.D.A. in 1902.

The incoming officers of the society were as follows.

President—Dr. D. C. Steeves, Moncton; Vice-Pres.—Dr. P. M. Clarke, St. Stephen; Sec.-Treas. and Registrar—Dr. E. D. Halford, Saint John. Area Council Members—Dr. Hazen Cummings, Lancaster; Dr. S. C. Geddes, Moncton; Dr. Don Vautour, Dalhousie; Dr. R. H. Dolan, Fredericton; and Dr. Bertin Cyr, Edmundston. Representatives: C.D.A.—Dr. Blake O'Brien, Fredericton and

Dr. Gerald Orser (Alternate), Woodstock. Representatives: N.D.E.B.—Dr. George Cormier, Moncton, and Dr. D. Boudreau (Alternate), Edmundston.

In addition to the luncheon at the hotel the wives of the Saint John dentists entertained the out-of-town wives at afternoon tea. In the evening a dance with a late buffet supper was enjoyed at the Renforth Community Centre with Dr. Daniel Britt as master of ceremonies.

J. F. E.

ONTARIO

Hamilton Dental Association

The Hamilton Dental Association held its first meeting of the 1958-59 season on Tuesday, September 23rd at 8 p.m. in the form of a special business meeting and discussion in reference to the new D.S.P.I. Post-payment plan adopted on January 1, 1959. Dr. Leckie introduced the guest speaker, Mr. W. E. Jackson formerly of Saskatoon, Saskatchewan, who gave a comprehensive study on the theoretical and practical adaptations and functioning of the D.S.P.I. plan. Dr. Shirley Locke, also of Saskatoon, President of Saskatchewan Dental Services, summarized the practicability of the plan and its use in the dental offices. Mr. Ken Croft, Deputy Secretary of the C.D.A., was present at the meeting in his official capacity. Dr. Len Easter thanked the speakers. Approximately 135 members were in attendance.

The annual fall golf tournament of the Association was held at the Glendale Golf and Country Club on September 25, with about 70 members participating in golf and over 100 attending the dinner and presentation of prizes. Dr. E. Ksiazek took the trophy for the low net score this year.

The first regular meeting of the year was held at the Fischer Hotel, October 9, preceded by a social hour. Drs. John Tenute, V. Stanziani, Thomas Bibby (Burlington) and Hugh F. Smith (Brantford), were introduced to the Association. Members of the Study Club were advised of their first meeting dates, as well as all members being reminded of the C.D.A. Hospitalization Plan. Mr. John Shea of Mutual Life gave a short talk re United Appeal aims. Dr. Gordon Spinks introduced Dr. J. Pepper of Toronto who gave a very informative clinic on Porcelain Jacket Crowns. He illustrated preparations, causes of failures and breakages,

by use of slides. Dr. D. Coburn thanked Dr. Pepper.

The highlight of the November meeting was our speaker Dr. G. Nikiforuk illustrating by use of slides and movies, "Changing Dimensions in Dentistry for Children". Dr. W. Feasby presented a report of the R.C.D.S. Welfare Plan.

December 4 was the setting at the Fischer Hotel for a very enjoyable Christmas meeting with the Dentists having as their guests, members of the Hamilton Dental Nurses', Assistants' and Hygienists' Association. Mr. John Robinson, noted writer for the Hamilton Spectator presented a very witty travel talk of his recent trip to Europe. Following this, Dr. N. Mancini led the gathering in the singing of Christmas carols and old favourites.

On January 10, 1959, about 70 dentists and their wives or sweethearts met at the Fischer for the annual dinner and dance. Dr. Joe Johnson and his wife acted as patrons. There were out-of-town guests from Toronto, Niagara Falls, Brantford, Dundas. Highlight of the evening was a very clever magician who kept the crowd in laughter. Many novel dances were enjoyed and numerous prizes given out. Dr. and Mrs. Finlayson were in charge this year and are to be commended on their every effort to make the yearly event such a success.

W. A. B.

Hamilton Dental Association

Dr. P. T. Smylski was recently elected President of the Hamilton Dental Association.

Kirkland Lake

An overwhelming majority of Teck voters approved a proposal to fluoridate Teck's water supply in a recent municipal election. Unofficial figures showed 2,774 in favour of fluoridation, while only 393 persons were against the move.

This means that the 1959 council will approach Hon. Wilf Spooner, Minister of Lands and Forests and Minister of Mines to have a private bill passed in the Ontario Legislature permitting fluoridation. A Supreme Court of Canada ruling makes addition of fluorine to municipal water supplies illegal at the present time.

All candidates for council endorsed the idea in their campaigns, and a committee of service clubs in Teck threw their full support behind the fluoridation drive led by Dr. E. R. Harris, MOH for Timiskaming.

Reeve Len Baird stated that the "people have forced council to take action", and that

the matter would be brought up before the 1959 council as soon as possible.

But fluoridation may still be a long way away. Despite the fact that doctors and dentists, supported by government surveys, have proven the value of fluorine in preventing tooth decay in children, a private bill must still be passed at Queen's Park.

Thunder Bay Dental Association

Thunder Bay Dental Association presented a trophy in honour of the late Dr. Wyatt B. Macdonald to the Fort William Curling Club for annual competition in Northwestern competition.

Ottawa Dentists Wives Association

Mrs. H. C. Bugden was elected president of the Ottawa Dentists Wives Association at the Annual Christmas Dinner held on December 3rd. Others on the new slate of officers include Mrs. J. R. Callingham, past president, and Mrs. J. Thomas, vice-president.

Ottawa Board of Health

Ottawa Board of Health passed a resolution in December, urging the city once again to take steps to obtain legislation to permit fluoridation of the city's water supply.

Owen Sound Approves Fluoridation Decision

Owen Sound voted three to two in favour of fluoridation in civic elections held in December. Final vote on the question was 3,604 in favour; 2,491 against.

North Bay Dental Society

North Bay Dental Society held a clinic on December 5, 1958. Dr. J. D. Purves, professor of operative dentistry at the University of Toronto, gave one talk in the afternoon and another in the evening, to the local society.

Sault Dental Association

Dr. W. J. Ross of the R.C.D.S. of Ontario, gave the second of a series of educational lectures on December 3, 1958, to acquaint Sault dentists with modern practices and techniques. His lecture covered "Oral Diagnosis" and "Practical gold inlay techniques for general practitioners". The program included a showing of photographic slides.

Muskoka-Simcoe Dental Society

The semi-annual meeting of the Muskoka-Simcoe Dental Society was held at the new Dental School, Camp Borden on November 12, 1958. The hosts, under Lt. Col. Bert Kearney, showed the large turnout around the new premises and the visitors were un-

doubtedly impressed with the modern equipment and surroundings.

At the business meeting, a new executive was elected and Dr. Gerry Woodger of Barrie, took over as president, and Dr. Alex Bolechowsky as secretary-treasurer.

Orthodontic Section of the C.D.A.

The officers elected for the Orthodontic Section of the Canadian Dental Association for the year 1959 were: Chairman, Dr. Walter Swiston, Montreal; Vice-chairman, Dr. Joe J. Schachter, Saskatoon, and Secretary-Treasurer, Dr. Edward E. Johns, Kingston.

E. J.

Society Honours London Dentist

Dr. J. W. Reynolds was honoured by the London and District Dental Society at its regular meeting in London in December, marking his retirement after 45 years of practice.

The presentation of a retired membership in the Society, was made by Dr. Stanley Moore, also a retired London dentist and life member of the Society.

Dr. Reynolds retired from active dentistry last June. He graduated from the Royal College of Dental Surgeons of Ontario in 1913.

Guest speaker at the dinner meeting was Dr. Hamilton B. Robinson, dean of the University of Kansas City, a well-known figure in dentistry in the United States and Canada.

Dr. Robinson gave illustrated talks on common oral lesions—their diagnosis and pathology. He was introduced by Dr. Lorne Taylor and thanked by Dr. A. J. Harris. Dr. D. E. Whiteman, president of the Society, was in charge of the program.

PRINCE EDWARD ISLAND

Charlottetown

Hon. Dr. M. L. Bonnell, the provincial minister of health, said that he was very pleased to see the Commissioner of sewers and water supply acting so promptly on the City Council's recommendation to fluoridate the city water.

"This is a public health measure that has proved to be completely harmless," Dr. Bonnell stated. "In time it would have the effect, at a low cost, of reducing the high level of tooth decay in Charlottetown by as much as two thirds."

In view of the recommendations of all recognized authorities on health measures, there

would appear to be no valid reason for any great delay here, Dr. Bonnell observed.

The Minister noted that such Maritime centres as Halifax, Dartmouth and Kentville had been using fluoridated water for over two years without complaint from the public.

"A million people in Canada and over 30 million in the United States drink fluoridated water," he said. He added that it would be wrong to continue to withhold from Charlottetown's younger generation the health benefits that fluoridation would bring about.

QUEBEC

North Western Quebec Dental Association

Dr. H. R. Ironstone, a long time practitioner in Rouyn, was elected president of the North Western Quebec Dental Association at the annual meeting held in November. Other officers were elected as follows: vice-president, Dr. F. Doyon, LaSarre; secretary, Dr. J. R. Houle, Rouyn; treasurer, Dr. R. Paradis, Rouyn; directors, Dr. G. Pinsonneault, Ville-Marie; Dr. F. Chabot, Val d'Or; Dr. M. Raymond, Noranda, and Dr. A. Berard, Senneville.

Twenty dentists from the region met to discuss common problems of the profession.

Montreal Dental Club

On Monday, Dec. 1st, the second annual Black Tie Dinner—preceded by a cocktail hour—was held in the Windsor Hotel in Montreal. 70 club members attended.

The speaker of the evening was Professor P. G. Anderson, clinical director of the Dental Faculty at the University of Toronto, who very ably presented his views on the future of dentistry as regards public health.

Guests who attended were Dr. Jean Paul Lussier, President of the Société Dentaire de Montréal, and Dr. Albert J. Colle, President of the Mount Royal Dental Society.

Dr. L. E. Kent, Jr., on behalf of the Montreal Dental Club, presented seven men, who have been in practice for 35 years, for Honorary Membership. They were: Drs. J. W. Abraham, L. E. Kent, Sr., J. C. Flanagan, W. S. Philips, E. T. Bourke, E. T. Cleveland, H. Lashley.

Dr. L. E. Kent, Sr., replied on behalf of the group, speaking briefly of the history of the seven new Honorary Members, and adding his regrets that Dr. Kenneth Carver, a past President of the C.D.A., who died several years ago, could not be with them.

W. D. S.

Mount Royal Dental Society

The Third General Meeting of the Mount Royal Dental Society for the 1958-59 season took place on Tuesday, November 25th, 1958, at the Sheraton Mount Royal Hotel.

The guest speaker for the evening was Dr. L. J. Rosen. A life member of the society, lecturer in the Department of Endodontics at McGill University and a fellow of the American College of Dentists.

His subject was 'Fundamentals in Endodontics, Dr. Rosen demonstrated with the aid of slides the method of obtaining proper access to the root canals of all teeth. He stressed that proper access is a fundamental in root canal therapy which facilitates a successful completion of the treatment.

The speaker was introduced by Dr. Baer and thanked by Dr. Bazerman.

The Fourth General Meeting of the Mount Royal Dental Society took place on Tuesday, December 9th, 1958, at the Sheraton Mount Royal Hotel. The guest speakers were Dr. H. Slater and Dr. V. Potter of the General Anaesthesia Centre of Montreal.

Their subject was 'Operative Dentistry under General Anaesthesia.' Dr. Slater advocated general anaesthesia under the following conditions:—

- (1) Where a great amount of treatment is necessary in a short period.
- (2) Unmanageable children.
- (3) Where a nervous mother neglects her children.
- (4) Severe spastics.
- (5) Pilots and executives who don't have time to go to the dentist regularly.
- (6) Emotionally upset patients.
- (7) People sensitive to local anaesthetics.
- (8) For people with abscessed teeth where local anaesthesia will not work.

The following suggestions were made for the treatment of emergencies.

- (1) Atrophine Sulphate 1 to 1-50.
- (2) Barbiturates for convulsions.
- (3) Adrenalin for drug sensitivity and mio-cardial failure.
- (4) Coramine.
- (5) Barbiturates with hyal uronidase injected intramuscularly.
- (6) Oxygen should always be used before any of the above are tried.

Dr. Potter demonstrated the equipment necessary and the advantages of a competent team.

SASKATCHEWAN

Emergency Service Plan

Regina dentists say that the new emergency service plan which they recently announced is working satisfactorily.

The service operates evenings and holidays. If patients are unable to contact their personal dentist, they are asked to phone the emergency number. Patients will then be referred to the dentist who is on emergency call. Regina dentists take turns on the emergency call schedule and arrange to meet the patient in their office.

Long Time Dentists Honoured

Dentists, 70 years of age and over, were presented with service scrolls at a joint dinner meeting held in November, by the council of the College of Dental Surgeons and the Saskatoon Dental Society. Dr. Wesley Watchler, Yorkton, president of the council, made the presentations. The dentists honoured from Saskatoon were: Dr. C. Smith, Dr. B. Swartout, Dr. F. Skinner. Mrs. Fred Salisbury received the honour on behalf of her late husband.

Educated Men — It is one of the puzzles of belonging to the company of educated men that you can never in an absolute sense be quite sure you do belong. For you as an individual there will always be another door, still closed, leading to still another, still more secret room. If as an individual you ever cease to perceive that there is another such door, it is even probable that you will then cease to belong in the company of educated men.
John E. Burchard.

GENERAL NEWS

WMHY 1960

The World Federation for Mental Health, on behalf of its member-associations all over the world, and with assurance of co-operation from International Agencies, has designated the year 1960 as World Mental Health Year.

As in the case with the International Geophysical Year, the purpose of the World Mental Health Year will be to give added stimulus to all activities in its own sphere, including research, with a maximum of international co-operation and exchange of ideas.

Mental Health will be the theme of the annual World Health Day of the World Health Organization, in April 1959. It will provide a very suitable occasion for co-operation with WHO, and for the beginning of the special activities leading up to 1960, which will be the year of major effort. As with the International Geophysical Year, it is to be expected that, while some activities will involve a longer period, there will be much material ready for consideration by the early months of 1961. It is, therefore, planned to hold an International Congress on Mental Health, in Paris, France, in August 1961, at which many WMHY reports will be presented.

Coffee Breaks Approved for Morale Value

The coffee break is more popular in Canada than in the United States.

In a special report sent out to its 18,000 members recently, the National Office Management Association revealed that 91 per cent of Canadian companies interviewed last year, have regularly designated periods for coffee drinking as compared with 79 per cent of the companies interviewed below the border.

Coffee is by all odds the favourite office drink in both countries, but tea is second in Canada while soft drinks are in second place in the United States.

The majority of office workers in both countries now have two coffee breaks a day rather than one. How does the boss feel about the coffee break? Most employers seem to like it for its morale value and only three percent have any plans for discontinuing it. A continuing difficulty, however, is getting the worker back on the job.

Fluoridation in Philadelphia

The Health Commission of Philadelphia has described as "truly amazing" the results of fluoridation of water, four years after a fluoridation program had been put into operation in the nation's third largest city, with a population of over two million.

Commissioner J. P. Dixon, reported recently that dental decay of permanent teeth among the city's school children has decreased by nearly 50 per cent since the program was undertaken in 1954.

The findings were based on a study of 17,617 six-year-olds during the school year 1954-55, as compared with a study of 21,834 of the same age during 1957-58.

In addition to improvement of the children's dental health, the Commissioner pointed out the economic advantages of the program. "While water fluoridation costs each person about 7.6 cents a year, at the present rate, it will save a million dollars in reduced dental care of the people of Philadelphia," he said.

With respect to the reduction in tooth removal, he said that the preservation of the six-year molars would have a lifelong effect on the dental health of the adult which the child would eventually become.

Washington, D.C.

Tissue culture techniques developed at the Harvard School of Dental Medicine add new knowledge to man's study of how bone tissue is formed, resorbed and calcified.

Dr. Paul Goldhaber, associate in oral pathology at the Harvard School of Dental Medicine, reported that in tissue culture:

—A rich source of oxygen initiates the process of bone resorption and new bone formation;

—He has positively identified large multinucleated cells, the osteoclasts or bone destroyers—as among the most active of all cells involved in the process of bone resorption;

—Deposits of calcium are observed around the bone tissue when the nutrient in which it is being nourished is raised to a relatively high alkaline pH under conditions involving a supply of pure oxygen.

47th Annual Meeting of the F.D.I., New York, 1959

All dentists throughout the world are invited to attend the A.D.A. Centennial Meeting, and the F.D.I. will hold its 47th annual meeting in New York in conjunction with the centennial meeting, from September 12th-19th, 1959. The meeting will commemorate a century of growth and progress in which dentistry has become the second largest of the health professions in the United States. Since it was founded in 1859 by a group of 26 dentists, the Association has grown to a total membership of 90,000.

International Brochure: An eight-page booklet describing the Centennial Session has been printed in English, French, German and Spanish and distributed throughout the world together with hotel application forms. To date, more than 6,000 copies have been distributed. Further copies are available from the Secretary General of the F.D.I. and the American Dental Association, 222 East Superior St., Chicago 11, Illinois.

In addition to the general type of information given, the booklet contains details of such matters as: requirements for entrance into the United States, travel to New York, American currency, weather, what to wear, tours and sight-seeing, etc.

Housing Bureau: All room reservations will be made through the A.D.A. Centennial Housing Bureau, 90 E. 42nd Street, New York 17, New York. The Bureau began accepting international reservations on June 1, 1958.

Hotels: Nearly 8,000 hotel rooms are now under contract to the A.D.A. in New York City. The headquarters hotel for the F.D.I. will be the Hotel Manhattan.

Registration: Registration of F.D.I. delegates will take place at the Hotel Manhattan. Arrangements will be made so that these delegates may also register simultaneously for the A.D.A. session. General registration for all other international guests will be at the Coliseum, starting on Sunday, September 13th. There will be no subscription fee for either the F.D.I. or A.D.A. meeting.

The scientific program will be held from Monday to Friday, September 14th-18th inclusive, at the Coliseum. Included in the program will be commercial and scientific exhibits, table and projected clinics, a continuous motion picture program, closed circuit colour television clinics, lectures and panel discussions. On Wednesday, September 16th and Friday, September 18th, lectures will be given at the Hotel Manhattan, using the simultaneous translation. Present plans call for presentation of table and projected clinics in Spanish, French and German, without translation, as part of the program at the Coliseum.

Dr. McKay Honored for Fluoride Research By U. S. Health Leaders

National health officials joined in tribute to Dr. Frederick S. McKay at Colorado Springs Oct. 6, honoring the pioneer researcher whose studies beginning 50 years ago paved the way for the water fluoridation procedure. The ceremonies, entitled "A Report to the Nation" took place at the 72nd annual meeting of the Colorado State Dental Association. At the conclusion of the program, Dr. McKay, a resident of Colorado Springs, was presented with a special citation from the Colorado society by Dr. George J. Dwire, of Colorado Springs, the president. Speaking on behalf of the A.D.A., Dr. Harold Hillenbrand, of Chicago, Association secretary, described water fluoridation as one of the great public health measures of modern times and added:

Millions of children throughout the world today will grow into adulthood with far better dental health than did their parents, thanks to Dr. McKay. The entire civilized world is indebted to this Colorado dentist for his discoveries which have done so much to prevent pain and suffering among mankind.

As spokesman for the American Medical Association, Dr. W. W. Bauer, of Chicago, director of health education, pointed out that the A.M.A. had reported water fluoridation to be "safe and practical" only after an investigation of "extraordinary care and thoroughness." Criticizing what he described as the "crackpot opposition," he said:

We distinguish between scientists who hold a minority opinion and rabble rousers who have opposed not only fluoridation but practically every other medical advance, particularly in the field of public health . . . These are the same people, also, who have tried to obstruct progress against polio immunization. They adhere to or promote false cancer cures and are regularly to be found in the company of quacks, faddists and the unscientific groups opposing medical progress.

Academy of Dentistry for the Handicapped

The Academy of Dentistry for the Handicapped held its annual meeting on Sunday, February 8, 1959 at the Conrad Hilton Hotel in Chicago, Illinois, in conjunction with the midwinter meeting of the Chicago Dental Society.

Dr. Saul Levy, Chairman and Director of the Department of Dentistry of Michael Reese Hospital and Medical Center, Chicago, addressed the Academy on "Dentistry for the Handicapped in Hospitals."

Dr. Boyd F. Sprague of Portland, Oregon, spoke on "Rectal Anaesthesia for the Handicapped Patient."

Dr. Manuel M. Album of Jenkintown, Pa., and Dr. Hugh M. Kopel of Detroit, Michigan, discussed "Drug Therapy and Dosage in Dentistry for Children."

The British Society of Dental Radiology

On March 27th and July 28th, 1958, representatives from the x-ray departments of Dental Schools and Hospitals in the United Kingdom, met at the Royal Dental Hospital, London, under the chairmanship of Dr. Sydney Blackman, to form "The British Society of Dental Radiology".

The objects of the Society are:

"The advancement of understanding and appreciation of the value of Dental Radiology"

"To promote study and research in Dental Radiology"

"To promote the study of radiographic interpretation and technique."

"To establish Dental Radiology as a specialty and to press for the creation of a Diploma in Dental Radiology to be registrable as an additional qualification"

A program is being arranged for a number of meetings to be held during the next year, for the presentation of scientific papers.

Fluoridation

Dr. Benjamin Spock, noted pediatrician and author of books on child care and development states: "Fluoridation of communal

drinking water is the greatest public health measure of the past thirty years."

Dr. Spock advocates preserving children's lives and health by means of sanitation, pasteurization, immunization, and fluoridation. He says, "A child will have 65% less tooth decay if it receives water containing one part fluorine per million parts water, from the time of conception throughout childhood.

Centenary Celebrations of the Granting of the Royal Charter by Means of Which the Licence in Dental Surgery was Instituted.—22, 23, 24, July 1959

The year 1959 marks the Centenary of the granting of the Royal Charter by which the Diploma of Licence in Dental Surgery was established in England. It was the first such Diploma to be instituted in this country.

The Council of the Royal College of Surgeons of England proposes that the event shall be celebrated and the arrangements are in the hands of a Centenary Committee of the Board of Faculty of Dental Surgery of this College under the Chairmanship of Mr. G. H. Leatherman.

All events will be held at the Royal College of Surgeons of England, with the exception of the Reception kindly given by the University of London which will be at the Senate House. The Historical Exhibition will be on view throughout the program.

IN MEMORIAM

Duncan Burns McMillan—Dr. Duncan Burns McMillan of Winnipeg, Manitoba, died on November 20, 1958, in Deer Lodge Hospital at the age of 68.

Dr. McMillan was a 1923 graduate of the Royal College of Dental Surgeons of Ontario and had practised dentistry in Winnipeg since that year.

He is survived by his widow, Edith.

Robert Wesley Scott—Dr. Robert Wesley Scott of Winnipeg, died on December 31st, 1958, at the age of 81.

Dr. Scott graduated from the University of Philadelphia in 1905, and had practised dentistry in Winnipeg since 1912. Until a year ago he had been associated with Winnipeg School Services.

Dr. Scott was an Honorary Life Member of the Manitoba Dental Association.

He is survived by his widow, Gertrude Louise.



**Plan NOW to attend the
Centennial Session of the
American Dental Association,
New York, N. Y. Sept.
14-18, 1959.**

The 100th anniversary meeting, combined with the 47th annual session of the Fédération Dentaire Internationale, promises to be the most stimulating dental convention of the century!

Bring the family and combine a well-deserved vacation in the world's most exciting city with your participation in an outstanding scientific meeting. Use the handy application blank in the current issue of THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION to reserve the hotel accommodations of your choice.



ANNOUNCEMENTS

Conventions of The Canadian Dental Association

1959	Halifax, Nova Scotia	June 21st-24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Ontario)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 10-13, 1959	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
May 28, 29, 30, 1959	British Columbia Dental Association Annual Convention	Hotel Vancouver, Vancouver, B.C.	Dr. W. Ross Upton, Exec. Sec.	217 Medical Dental Bldg., Vancouver 1, B.C.
May 31-June 3, 1959	Western Canada Dental Society Convention	Banff Springs Hotel, Banff, Alberta	Dr. C. S. Lea,	708 Greyhound Bldg., Calgary, Alberta
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden, Sec.-Treas.,	183 Metcalfe St., Ottawa, Ont.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
July 11-14, 1960	11th Triennial Pacific Coast Dental Conference	Portland, Oregon, U.S.A.	Dr. K. R. Jensen, Secretary,	1033 S.W. Yamhill St., Portland 5, Oregon, U.S.A.

ACADEMY OF DENTISTRY, TORONTO

Mar. 6, 1959—Academy Dinner Dance—Granite Club

Mar. 26, 1959—Third Stated Meeting—Osler Hall

For further details write to: Dr. Vernon Herron, Secretary, Academy of Dentistry, 230 St. George St., Toronto 5, Ont.

UNIVERSITY OF ALABAMA

Refresher Courses: "Partial Denture Prosthesis"—Apr. 3, 4, 5, 1959
"Oral Medicine"—April 10, 11, 12, 1959.

For further information write: Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 Seventh Ave. South, Birmingham, Alabama.

TUFTS UNIVERSITY

Two Graduate Courses in Oral Surgery: 1. Three Year graduate course in Oral Surgery in conjunction with the Boston City Hospital.

2. One Year Basic Science Course in Oral Surgery.

Post Graduate Courses: Modern Concepts Regarding The Etiology, Diagnosis and Treatment of Oral Disease—Sept. 21, 22, 23, 1959.
Recent Developments on the Histopathology of Periodontal Disease—April 18, 19, 1959.

For further information write to: Division of Graduate and Postgraduate Studies, Tufts University School of Dental Medicine, 136 Harrison Ave., Boston, Mass.

UNIVERSITY OF PENNSYLVANIA

Post Graduate Courses: "Partial Dentures"—February 23-27, 1959.

"Occluso-Rehabilitation—Principles of Diagnosis and Treatment"—March 2-6, 1959.

"Principles of Occlusion"—March 4, 5, 6, 1959.

"Oral Medicine"—March 9-13, 1959.

"Applied Anatomy"—March 16, 17, 18, 1959.

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Prévention de la carie dentaire

Nutrition vs fluoruration

par J. RODRIGUE HOULE, B.A., D.D.S., D.H.D.P., Rouyn, P.Qué.

La carie dentaire semble avoir été de tout temps une question d'actualité qui a provoqué beaucoup de maux inutiles.

On n'a qu'à revoir les fac-similés reproduits dans les annales médico-dentaires pour se représenter le genre de tortures qu'engendraient les extractions héroïques des temps anciens.

La carie dentaire n'est donc pas une maladie contemporaine. Aujourd'hui, elle n'a rien perdu de son acuité.

Elle a fait l'objet d'études nombreuses et a permis aux fatalistes de se réjouir. Sa prévention sera donc abordée de nouveau sous l'angle "Nutrition vs Fluoruration."

Elle sera traitée sans prétention et sans espoir de création ou d'innovation.

Qu'est-ce donc que la carie dentaire?

Hypothétiquement, c'est un processus d'origine bactérienne qui a pour effet la désintégration des tissus dentaires par suite de la déminéralisation de ses constituants.

Ce phénomène pathologique a ceci de particulier qu'il est spécifique au tissu dentaire, parce que ce tissu de nature osseuse est le seul du genre qui est en contact direct avec l'extérieur.

Il ne fait pas de doute qu'un autre os placé dans les mêmes conditions su-

birait les mêmes dommages et ce, avec beaucoup plus de rapidité.

L'os, en effet, ne possède pas le même degré de dureté que l'émail de la dent et répondrait de façon moins nette à l'action des acides.

L'émail de la dent est le tissu le plus minéralisé du corps animal, soit à 97%, et, de ce fait, il forme l'organe le plus résistant.

Selon l'hypothèse la plus généralement admise, la déminéralisation des tissus dentaires se ferait par l'action spécifique de certains microorganismes de la bouche.

Ces derniers comptent une trentaine de variétés et sont en quantité très nombreuse. Les plus pathogènes seraient le lactobacille acidophile et le streptocoque lactique.

Ils auraient la propriété de se grouper en plaques bactérielles et leur action commune se situerait aux endroits de faiblesse de la dent: points-fissures etc. . . .

Ainsi groupés stratégiquement, pour mieux orienter leur pouvoir de destruction, ils sécrèteraient des enzymes qui, par leur action sur les hydrates de carbone, donneraient des acides.

Parmi celles-ci, les plus importantes qui semblent jouer un rôle prépondérant sont les acides lactique, citrique et pyruvique.

Ils provoqueraient la protéolyse i.e. la lyse de protéines sur lesquelles sont fixés les sels minéraux. Dès lors, l'os dentaire se déminéralise, faute de support protéinique, de façon progressive. Ce produit de décomposition organique et minéral est l'effet de la carie.

On peut alors l'établir comme suit:

Enzymes + H de C → acides → protéolyse

Ces acides, nous l'avons vu, attaquent un ou plusieurs organes vivants individuellement et provoquent un état pathologique qui peut amener la mort prématurée d'un organe jugé nécessaire au moment de sa création.

Cette sécrétion d'enzymes, dans ce cas, est intimement liée au Ph du milieu ambiant. Voilà pourquoi l'on trouve de

si nombreux cas de carie dans les bouches à Ph acide. Quand on a surnommé les hydrates de carbone: de redoutables générateurs d'acide, on avait en vue leur énorme contribution à la carie dentaire.

De nos jours plus que jamais, les hydrates de carbone sont bien à la mode, autant l'est la carie dentaire elle-même.

Ils sont raffinés à un point tel qu'ils sont presque devenus la base de notre alimentation.

Ils sont le principal adjuvant des enzymes à la production des acides, en entretenant un milieu propice et en réagissant avec elles pour provoquer à brève échéance la mort de la dent.

Cette échéance est en corrélation avec le nombre et la virulence des bactéries, la grandeur des plaques bactérielles, la vitesse de production d'acides, la chaleur, etc. etc. . . .

En somme, en corrélation avec tous les facteurs qui font qu'une maladie est maligne ou bénigne.

Comme dans toute agression bactérienne cependant, l'organisme humain offre une certaine résistance naturelle.

Nous avons vu que le Ph du milieu est très important et qu'une salive alcaline sert de tampon et agit comme principal inhibiteur de sécrétion bactérienne.

L'hygiène de la bouche — brossage — dentifrices, gargarisme ont certainement leur utilité, mais ce sont des moyens mécaniques très aléatoires qui n'ont pas connu le succès auquel on s'attendait.

Il y a enfin l'émail de la dent. C'est lui qui, en définitive, flanchera ou résistera aux attaques répétées des acides selon que dans sa structure il possèdera ou non une bonne calcification.

Nous voyons donc que la carie dentaire est en grande partie une question d'assimilation de produits nutritifs . . . une question de nutrition.

Un fait à remarquer tout d'abord, c'est qu'une dent formée ne peut plus se calcifier par l'intérieur, même dans les cas de rachitisme.

D'où l'importance d'avoir une bonne calcification au moment de la croissance, de façon à ce que la dent soit résistante toute la vie.

En nutrition, on reconnaît que les matériaux de construction durant la croissance se composent de protéines, de sels minéraux et de vitamines.

Nous verrons que pour la formation des tissus dentaires, ce sont exactement les mêmes éléments qui sont exigés.

Les protéines constituent la substance organique de la dent, c'est sur elles que viennent se fixer les sels minéraux. Sans elles, il n'y a pas de formation embryonnaire possible.

Le calcium en particulier et d'autres minéraux se fixent sur les protéines pour former l'apatite, c'est-à-dire des cristaux qui, en s'agglomérant, forment les tissus osseux calcifiés.

La vitamine D, on le sait, est indispensable au métabolisme du calcium, elle est une condition irremplaçable de sa déposition sur la substance organique.

On mesure la nécessité de la vitamine C par sa carence prolongée durant la croissance. Il en découlera une absence plus ou moins marquée de dentine recouvrant la pulpe et un manque de protection et de soutien à la mince couche d'émail.

Leur carence entraîne automatiquement des troubles spécifiques à chaque substance.

Ce peut être la malformation, un manque de calcification localisé, de l'hypoplasie ou une faiblesse des tissus et, par voie de conséquence, la carie.

À l'âge adulte, le problème de la carie n'a plus la même acuité. Ce phénomène s'expliquerait par une politique de bon voisinage entre les bactéries et l'hôte, une habitude à vivre ensemble, une espèce d'immunité spécifique.

Toutefois, les tissus périodontaires se renouvellent constamment et ont un besoin en vitamines A et C qui ne souffrent pas de carence sans troubles pathologiques. Ce sont d'ailleurs ces maladies qui prévalent à cet âge.

Nous avons vu que l'acidité de la salive est un facteur de carie dentaire. Cette acidité dépend aussi très souvent de la nutrition et est habituellement accompagnée de symptômes d'autres maladies. D'où, la nécessité d'une bonne nutrition dans ce facteur de destruction.

Puisque l'émail qui recouvre la dent est le premier élément que rencontrent les acides, il est donc d'une importance capitale qu'il ait non seulement de la calcification, mais une excellente calcification. Les sels minéraux qui le composent ont des propriétés différentes. Le calcium possède une place de choix dans la structure de la dent mais il n'est pas le seul. Si, par sa carence, un autre minéral prend sa place, il y a tout lieu de croire que la dureté des tissus ne sera pas la même et que leur résistance sera altérée.

Ainsi en est-il des autres substances de construction. Les cas cliniques sont trop fréquents pour qu'il soit même permis d'en douter.

On notera, cependant, que la calcification des os peut très bien être parfaite sans pour cela que l'émail le soit. L'émail en effet, on l'a dit, est le seul os qui est en contact direct avec le monde extérieur. Il a une fonction excessivement difficile qu'aucun autre os ne pourrait remplir.

Il lui faut donc être plus résistant. Sa propre structure faite de prismes perpendiculaires à la surface de la dent devrait lui permettre une vie que Dieu lui-même a voulu permanente.

Or, on sait, que dans près de cent pour cent, cette permanence est devenue très relative et de courte durée.

On a dit et on répète souvent que la carie dentaire est l'apanage de la civilisation. Qu'il suffise de mentionner qu'un certain Dr Price a déjà étudié des races primitives exemptes de carie et a trouvé que leur régime contient sept fois plus de calcium et de vitamines que le nôtre. S'il ne mentionne pas les hydrates de carbone, c'est probablement qu'il n'en a pas remarqué l'excès que nous en faisons.

Ainsi, en Amérique pour le moins, à l'encontre de la croyance populaire, le

régime alimentaire est nettement insuffisant en sels minéraux et en vitamines.

On veut des bébés gros et gras et on les gave de graisses et d'hydrates de carbone.

Pourtant la nature de l'homme n'a pas changé, ses besoins non plus. Les recommandations en protéines, en sels minéraux et en vitamines demeurent toujours la base d'une alimentation propre à la croissance.

Les hydrates de carbone sont aujourd'hui tellement raffinés que sans autres raisons que le goût et la faiblesse, on en a presque fait la base de notre alimentation. C'est probablement ce que voulait amplifier Alexis Carrel quand il déclarait: "La civilisation telle qu'elle nous façonne est en contradiction flagrante avec les besoins et les tendances actuelles de l'homme".

Une mère enceinte a le devoir de prendre un supplément constant de matériaux de constructions dans son intérêt et dans celui de l'enfant qui naîtra d'elle. C'est en effet dans son sein que débutera la calcification des dents.

Vers le milieu de sa première année, le nourrisson verra apparaître ses premières dents; aussi naîtra son désir naturel de mordre. C'est un indice qui a une signification autre que le plaisir de la curiosité.

Il signifie qu'il est temps de laisser partiellement et graduellement le biberon pour initier l'enfant à la nourriture solide afin de répondre à son besoin de mastication. Le lait, en effet, malgré ses qualités incontestables, n'est pas un aliment complet et ne peut suffire à lui seul à la formation idéale de la dent. Il faudra alors pallier par des aliments plus durs, à forte proportion aqueuse et, renfermant de préférence les substances nécessaires à ses besoins de croissance.

Ces aliments auront la triple fonction de raffermir les dents et les gencives, de les nettoyer automatiquement par l'eau et la mastication et enfin de parachever la calcification.

L'apport en substances de construction,

je les répète: Protéines, sels minéraux, vitamines, devra durer aussi longtemps qu'inconsciemment on fabrique ses dents, c'est-à-dire jusqu'à l'âge où les os sont calcifiés.

De cette façon, il n'est pas téméraire de prétendre qu'il y aurait une bonne calcification. C'est, semble-t-il, ce qui échoit aux peuples primitifs, en somme à tous ceux qui sont tenus ou se tiennent éloignés de toute civilisation.

Il y a bien les facteurs prédisposants de l'hérédité et il y a la civilisation so-disant moderne et son abus d'hydrates de carbone.

Mais depuis quelques années, on a redécouvert un produit vieux comme le monde qui enraie la carie dentaire dans la proportion de 50% à 70%. Vous l'avez reconnu, c'est le fluor.

Expérimentalement, une dent saine contient plus de fluor qu'une dent cariée.

Cliniquement, des dents qu'on nourrit au fluor consciemment ou inconsciemment sont plus résistantes à la carie dans les proportions mentionnées.

Chimiquement, la fluoroapatite est beaucoup plus résistante à l'action des acides que ne l'est la carbonatoapatite.

A l'état libre ou sous forme de sels, le fluor forme sur la croûte terrestre 0.1% de l'ensemble de ses constituants.

Dans l'organisme, sa quantité est égale à celle du fer avec environ 5 mg ou 0.005% et vient au neuvième rang des substances généralement retrouvées.

L'eau de mer en contient une partie par million, soit exactement la norme recommandée, mais il arrive que la majorité s'approvisionne en eaux intérieures pour leurs besoins et que la mer n'est pas un affluent.

Une eau profonde en contient davantage qu'une eau de surface, mais il arrive en certains cas que la teneur en fluor est assez élevée pour produire une fluorose dentaire: genre d'hypoplasie d'émail. Dans ces cas, on rencontrait une forte diminution de carie dentaire.

C'est d'ailleurs cette maladie très bé-

nigne qui a permis les recherches innombrables sur les propriétés biologiques du fluor.

Il existe dans la nature, un équilibre merveilleux; l'homme peut y trouver tout ce dont il a besoin. Cependant, on s'émeut depuis quelque temps de la pauvreté de certains sols, par l'absence ou la carence de certaines valeurs nutritives chez les plantes, or, les plantes sont à la disposition de l'homme et sans leur présence toute vie serait impossible sur terre.

Les plantes, on le sait, tirent leurs valeurs nutritives du sol, et, si ce sol en est plus ou moins dépourvu, il est difficile de prétendre par exemple que tel légume du Texas est aussi riche que celui du Québec.

Quoi qu'il en soit, les plantes ne contiennent pas suffisamment de fluor pour les besoins dentaires de l'homme.

Puisque la nature contient du fluor et qu'il est un constituant de la matière humaine, il est permis de le considérer comme faisant partie intégrante de la nutrition au même titre que tous les autres minéraux.

Il faut toutefois affirmer que le fluor a une affinité marquée pour les tissus dentaires, plus particulièrement durant leur période de formation.

En application topique, le fluor se lie au calcium pour former le fluorure de calcium, et rend plus difficile l'action dévastatrice des acides.

Si le fluor est absorbé par l'organisme via le système digestif, il forme la fluoroapatite.

L'apatite est l'ensemble des cristaux qui structure le tissu de l'os.

Dans la dentine, la réaction se fait comme suit:

hydroxyapatite + fluor $\rightarrow$ fluoroapatite

Dans l'émail:

60%: carbonatoapatite + fluor $\rightarrow$ fluoroapatite

30%: hydroxyapatite + fluor $\rightarrow$ fluoroapatite.

Le fluor aurait non seulement la propriété de durcir les prismes et la substance interprismatique, mais il inhiberait

la production d'enzymes en alcalinisant la salive par un mécanisme encore imprécis.

La présence du fluor dans la matière vivante n'a jamais provoqué de grands commentaires, et sa déficience n'a jamais attiré l'attention avant les dix dernières années.

On rapporte, en certains endroits, que des médecins l'auraient recommandé au siècle dernier en prétextant qu'il faisait de meilleures dents.

Etant donné que le fluor fait partie des besoins de l'homme et que son apport par les substances nutritives est insuffisant, nous pouvons considérer la fluoruration des eaux potables comme un supplément de substance généralement en carence et devant être un constituant normal de la dent. C'est pourquoi, on ne peut tenter de dissocier la fluoration de la nutrition puisque la première fait partie de la seconde et doit être considérée comme telle.

On dit avec raison que la santé des dents reflète la santé de l'individu. C'est alors faire une triste description du peuple américain qui voyait 10% de ses conscrits à la dernière guerre rejetés du service militaire pour des raisons qu'on attribue à l'état de leurs dents.

C'est probablement pour cette raison qu'en ce pays, on porte actuellement tant d'attention à la fluoruration des eaux de consommation.

Environ le quart de leur population s'en approvisionne. Au Canada, la progression est constante et il y a lieu de croire que d'ici quelques années ce sera chose faite dans toutes les villes de moyenne importance.

Il serait prétentieux de croire que sans fluor, la conservation des dents serait impossible.

En Amérique cependant, ce serait certes plus difficile à cause du régime alimentaire généralement suivi.

Il ne fait pas de doute toutefois que la consommation du fluor n'est pas dangereuse et que, s'il fournit l'occasion de diminuer l'incidence de la carie dentaire d'environ 60%, c'est encore la meilleure

façon connue d'être immunisé le plus parfaitement possible contre la carie.

Cependant, le fluor comme tel est un poison; ainsi peut l'être l'iode et le chlore, s'ils sont manipulés sans contrôle et hors de proportion.

La concentration recommandée de fluor est une partie par million, comme dans la mer, non pas qu'il soit dangereux à des proportions dix fois plus élevées, mais parce que c'est suffisant pour les besoins de la croissance dentaire.

Pour être nocif dans l'eau d'alimentation, il faudrait qu'un individu en consomme 10,000 verres par jour ou que d'un coup on en déverse 600 tonnes dans le réservoir municipal de Montréal.

On a apporté d'autres objections: elles ont toutes été réfutées. En fait, elles ont été utiles dans la mesure où elles ont permis les recherches qui en font aujourd'hui un mode de prévention sûr, effectif et relativement peu coûteux.

Le fait que les associations médico-dentaires du Continent l'aient endossé de leur autorité et le sceau que vient d'y apposer l'OMS, récemment, en font un instrument de contrôle efficace contre lequel on aurait mauvaise grâce de s'élever ou de protester.

Les objections ne pourront pas empêcher que le fluor soit un constituant chimique caractéristique de la structure de la dent principalement de l'émail.

On a fait des enquêtes épidémiologiques dans les localités où on rencontrait de la fluorose dentaire. Partout on trouva les faits communs suivants:

- Diminution de carie dentaire;
- Concentration trop élevée de fluor;
- Acquisition de la fluorose à la période de croissance;
- Aucun autre symptôme pathologique.

C'est la signature de son emploi sans restriction.

Le surplus qu'on pourrait absorber, s'élimine par les reins, la transpiration et les matières fécales. Il est donc impossible de s'hypercalcifier.

En certains milieux, on a parlé de liberté ou de médication en masse. Il est

d'abord assuré que ce n'est pas une médication. Quant à la liberté des individus, il est permis de ne pas la prendre au sérieux, si on songe que jadis des gens ont vécu longtemps, heureux et sans carie dentaire en absorbant du fluor toute leur vie à leur insu.

La façon naturelle de s'approvisionner est la meilleure. Si le fluor ne se trouve pas en quantité suffisante dans les produits d'alimentation, mettons-en, mais laissons à ces produits le soin de le véhiculer.

S'il était possible d'en saturer le sol de façon à ce que ses produits en contiennent en quantité suffisante, ce serait vraiment la façon idéale, mais d'ici là, il y a beaucoup à parier qu'il se carierait inutilement une quantité effarante de dents.

En février prochain, la Ligue de Santé du Canada inaugurera sa semaine annuelle de Santé. Comme troisième item à l'agenda, nous remarquons: "Soins dentaires," "L'usage d'eau fluorée" y lit-on, "empêcherait autant d'affections dentaires que n'en peuvent soigner actuellement tous les dentistes du Canada réunis."

Et, d'ajouter son président, le Dr Bates: "Les cas de carie dentaire pourraient être réduits de 70%, si l'eau consommée avait auparavant été traitée au fluor."

En dehors des cadres dentaires, il serait peut-être intéressant de signaler que des essais avec le fluor ont été tentés dans les cas de rachitisme. Il est encore trop tôt pour juger des succès remportés.

La fluoration est donc une mesure d'hygiène publique. Rendons-lui la part que la nature lui a assignée et les dents pourront mieux jouer le rôle utile dans l'économie.

Quand Napoléon disait qu'une armée marchait sur son estomac, il songeait sans doute à une bonne denture.

Elle est d'ailleurs rendue possible par une bonne nutrition et elle permet une mastication indispensable à une bonne digestion et à une bonne assimilation.

La carie dentaire est une maladie différente qui peut causer des troubles locaux et organiques.

L'expérience prouve que sa solution n'est pas d'ordre curatif.

A la façon des maladies contagieuses, son contrôle doit se faire surtout au niveau de l'hygiène publique, au niveau de la prévention.

Les hygiénistes dentaires se doivent donc d'insister sur une bonne nutrition, surtout aux stades de la croissance, en donnant au fluor la part excessivement importante qu'il y tient.

C'est actuellement la méthode la plus sûre de prévention de la carie dentaire.

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VIENT DE PARAÎTRE

BIOMECHANIQUE DE LA PARADONTOSE, l'équilibration de l'articulé par le meulage sélectif, par Konrad Thielemann. Traduction en langue française par Jacques Autissier. Editions Julien Prélât, Paris 1958. 229 pages, 259 figures.

L'introduction est un résumé sur le rôle des facteurs mécaniques dans l'étiologie de la parodontose.

Dans les chapitres consacrés aux lésions directes et indirectes du parodonte: grandeur, direction, moment et durée de l'action des forces, l'auteur confronte les données théoriques physiques avec les facteurs biologiques et avec la pratique d'une façon claire et critique.

La théorie de l'articulé et de l'équilibre occluso-articulé se résume dans la formule de Thielemann:

Trajectoire Condylenne $\times$ *Trajectoire Incisive* = *équilibre d'articulé*.

Corde d'Occlusion $\times$ *Courbe d'Occlusion* $\times$ *Cuspide*

C'est un aide-mémoire qui, appliqué correctement, permet de déduire les lois de l'articulé nécessaires pour comprendre les cas compliqués.

Les chapitres: études des troubles de l'articulé, empêchement unilatéral des mouvements de glissement, empêchement bilatéral, formation et types d'obstacles au glissement, sont originaux et classiques. Les conséquences immédiates et indirectes d'un obstacle unilatéral au glissement apparaissent dans le côté opposé du maxillaire. Même si le terme "loi de la diagonale" semble être trop fort, le phénomène diagonal de Thielemann est très fréquent dans la pratique quotidienne et mérite d'être bien connu.

Le chapitre sur le diagnostic décrit l'examen buccal avec l'examen direct des fonctions et l'examen à l'aide de modèles. Il considère plusieurs techniques applicables à différents problèmes pour le praticien plus ou moins expérimenté. L'auteur insiste sur les avantages d'une analyse fonctionnelle dans l'articulateur où les modèles sont fixés à l'aide de l'arc facial en rapport correct au plan de Francfort et à l'axe inter-condylien.

La thérapeutique systématique pour Thielemann doit rétablir un équilibre occluso-articulé. Tout compromis qu'on trouve codifié dans de nombreux ouvrages ne sont qu'un traitement partiel qui ne peut donner qu'une amélioration passagère. L'introduction à la thérapeutique décrit la suppression des troubles de l'occlusion centrique, sans en exagérer l'importance. Pour rétablir un articulé équilibré, on peut employer les moyens suivants: le meulage, depuis les modifications simples de certaines dents jusqu'aux modifications de toute l'arcade dentaire grâce à l'application des lois de l'articulé, et l'abaissement ou le déplacement de l'articulé; les moyens orthodontiques, sans appareillage, avec des appareils passifs ou actifs; les méthodes prothétiques; les combinaisons des méthodes citées. Le chapitre sur la gymnastique des mâchoires insiste sur le fait que la suppression des obstacles au glissement seule ne suffit pas, il faut que le patient utilise les possibilités de fonction qui lui sont données.

Suivent les considérations sur les atelles fixes et amovibles, sur la surélévation de l'articulé. Les chapitres sur les prothèses pour parodontose et sur la prophylaxie donnent des conclusions prophylactiques nombreuses et valables.

La première édition "Biomechanik der Parodontose", parue en 1938, est devenue un classique. Vingt ans plus tard, la traduction française de la deuxième édition est toujours une lecture très intéressante et d'actualité. Sa conception et sa terminologie, basées sur l'articulé et les mouvements, sont plus logiques que celles basées sur l'occlusion et les contacts. Sa thérapeutique ne s'arrête pas aux méthodes simples pour les cas typiques, comme le font les manuels pour les étudiants, mais enseigne comment surmonter les obstacles dans des cas difficiles. Thielemann écrit pour un lecteur intelligent et pour un dentiste. Il n'expose pas longuement des choses généralement connues, il ne décrit pas des banalités techniques comme des "méthodes". Il donne l'idée, le principe et fait réfléchir son lecteur. D'autres auteurs rempliraient avec le même contenu quatre fois le volume de cet ouvrage. La traduction française permet à nos lecteurs d'étudier un ouvrage allemand qui avait fortement influencé le domaine de la périodontologie et indirectement même la pratique générale.

NOUVELLES DE L'ASSOCIATION

Plan d'Epargne-Retraite de l'A.D.C.

Le Plan d'Epargne-Retraite de l'A.D.C., après moins d'un an d'existence, occupe une situation financière enviable. La valeur des unités de chacun des trois fonds dans lesquels sont investies les sommes perçues pour ce plan était fixée au début, c.-à-d. le 1er mars 1958, à 10.00. Tous les trois mois, le 1er mars, le 1er juin, le 1er septembre et le 1er décembre, on établit la valeur des unités et on la publie dans le Journal.

Voici la valeur de chaque unité pour l'année 1958:

date d'évaluation	fonds des débentures du gouvernement	fonds des débentures des corporations	fonds des stocks communs
1er mars	10.00	10.00	10.00
1er juin	10.98	10.16	10.712
1er sept.	10.002	10.213	11.173
1er déc.	9.942	10.258	11.845

Pour être déductible de l'impôt de 1958, les contrats du Plan d'Epargne-Retraite doivent avoir été signés avant le 31 décembre 1958 et les primes, pour les nouveaux souscripteurs comme pour les anciens, doivent être payés avant le 15 février 1959. Les nouveaux souscripteurs qui ont fait application avant le 31 décembre 1958 peuvent déduire de leur impôt les primes qu'ils auront versées avant le 15 février 1959.

Pour tous renseignements, on s'adresse au Plan d'Epargne-Retraite de l'A.D.C., 2249 rue Yonge, Toronto 7, Ont.

Conseiller dentaire à la Défense civile

L'Association dentaire canadienne, à ses réunions générales régulières de 1956 et 1957, avait adopté une résolution demandant la nomination d'un dentiste à l'administration de la Défense civile. L'Association vient de recevoir une lettre du Dr G. D. W. Cameron, sous-ministre du Ministère de la Santé nationale, annonçant la nomination du docteur Hugh R. McLaren.

Voici un extrait de cette lettre: "Notre Division, dans le Ministère, s'est vu confier la responsabilité de conseiller les Services de Santé de la Défense civile dans les questions qui regardent la participation des membres de la profession dentaire aux premiers soins à donner à des grands nombres de blessés et à d'autres services sanitaires d'urgence à l'occasion de cataclysmes ou de désastres. Le docteur Hugh R. McLaren sera chargé en partie de ces fonctions, en qualité de conseiller de la Division aux Services de Santé de la Défense civile. De plus, il servira comme officier de liaison entre les Services de Santé de la Défense civile et la profession dentaire, les facultés dentaires, le Corps Royal Dentaire Canadien, etc."

Le docteur McLaren a aidé les officiers des Services de Santé de la Défense civile pour se familiariser avec ses fonctions de dentiste de la Défense civile; il a aussi fait partie du personnel qui donne des cours au Collège de la Défense civile.

Le président de l'A.D.C. a écrit au sous-ministre pour lui exprimer la gratitude de la profession dentaire pour cette nomination.

Projets de cours de pédodontie

Ottawa, le 5 décembre 1958.—Le Gouvernement a fait un octroi de plus de \$2,300 pour défrayer les dépenses de séminaires qui seront donnés aux dentistes d'Alberta. Ces cours, patronisés par l'Association dentaire d'Alberta, porteront sur les nouvelles méthodes de traitement et sur l'amélioration des services prodigués aux enfants. Chacun de ces cours durera deux jours; une journée sera consacrée à la pédodontie, l'autre à l'orthodontie. Pour commencer, les cours de pédodontie seront donnés par le docteur C. R. Castaldi et ceux d'orthodontie, par le docteur R. D. Haryett, tous deux de la faculté de chirurgie dentaire de l'Université d'Alberta.

Ces cours se donneront à Edmonton, Calgary, Lethbridge, Medicine Hat, Red Deer et Grande Prairie.

Le docteur Bilkey succède au docteur Dunn

Le Journal de l'Association dentaire canadienne, à partir du 1er janvier 1959, est dirigé par un nouveau rédacteur, le docteur Edward R. Bilkey. Le docteur Gérard de Montigny continue d'être le rédacteur de la section française.

Le docteur Wesley J. Dunn a démissionné après avoir été rédacteur durant cinq ans et continuera d'agir comme secrétaire-registrateur du Collège Royal des Chirurgiens-Dentistes de l'Ontario. Tous les deux, le docteur Bilkey et le docteur Dunn sont des diplômés de l'Université de Toronto, promotion de 1947.

Le docteur Bilkey s'est occupé durant un certain temps d'organisation dentaire. Il a été président de la Société canadienne de Dentisterie pour les Enfants, membre du Conseil de l'Académie de Dentisterie de Toronto, membre du Comité des Relations extérieures de l'A.D.C. et, jusqu'en des derniers temps, assistant-rédacteur pour l'Ontario du Journal de l'Association dentaire canadienne. Il limite sa pratique aux enfants.

Le docteur Dunn, qui laisse le poste de rédacteur, écrivait au sujet du docteur Bilkey: "La cause du journalisme dentaire canadien a été placée entre les mains d'un homme éminemment qualifié pour accepter cette res-

ponsabilité. La profession dentaire canadienne souhaite la bienvenue au docteur Bilkey à l'occasion de sa nomination comme rédacteur et lui souhaite une carrière longue et fructueuse".

L'Association occupe seule le Secrétariat

L'organisme dentaire national du Canada occupe maintenant seul l'édifice du Secrétariat. L'Association dentaire d'Ontario et le Collège Royal des Chirugiens-Dentistes de l'Ontario étaient locataires de pièces dans l'immeuble depuis son acquisition par l'A.D.C., en 1950.

Au début de décembre, le Collège a déménagé dans son propre édifice, qui est situé juste au sud de l'immeuble de l'A.D.C. L'Association dentaire d'Ontario et l'Académie de Dentisterie de Toronto occuperont des bureaux dans l'édifice du Collège. Le voisinage immédiat de ces divers organismes perpétuera les bonnes relations qui ont existé jusqu'à maintenant.

L'essor pris par l'A.D.C. l'obligeait à occuper tout l'édifice.

Nouveau Directeur des Services dentaires au Manitoba

Le docteur Ralph Connor, D.D.P.H., vient d'être nommé Directeur des Services dentaires de la province du Manitoba. Le docteur Connor était attaché à l'unité sanitaire de St. Catharines, Ont., depuis dix ans.

Après avoir exercé à St. Thomas, Ont., le docteur Connor a passé huit ans avec l'armée canadienne, d'où il a pris sa retraite en 1947, avec le grade de major. Il est un ancien président de la section dentaire de l'Association canadienne d'Hygiène publique.

Femme-dentiste au nombre des gouverneurs du Conseil de Radio-Canada

Le docteur Mabel G. Connell, de Prince Albert, Saskatchewan, vient d'être élu gouverneur du nouveau Conseil de Radio-Canada. Le docteur Connell était en pratique privée avec son mari, le docteur Bruce Connell, depuis 1928.

La ville de Prince Albert est l'endroit de résidence du Premier Ministre Diefenbaker, qui, dit-on, est un ami intime des Connell. Le docteur Connell s'est toujours intéressé à la chose publique, spécialement à la Fédération canadienne des Femmes universitaires et des œuvres des enfants infirmes.

Pourquoi contredire les faits?

M. Leonard Bertin, rédacteur des sciences du Financial Post, a écrit un article retentissant sur la fluoruration dans une récente livraison de ce Journal. Cet article donne une idée juste de la situation de la fluoruration au Canada. On peut obtenir des tirés-à-part de cet article au prix de \$1.40 pour cent copies. On s'adresse au Secrétariat de l'A.D.C.

Remerciements du docteur Ernest Charron

Le docteur Ernest Charron, ancien doyen de la faculté de Chirurgie dentaire de l'Université de Montréal, pour qui une souscription avait été entreprise dans le but de faire peindre son portrait à l'huile et de créer un prix annuel portant son nom, vient de faire parvenir une lettre à la rédaction où il remercie tous ceux qui ont contribué au succès de cette souscription.

Cette campagne, qui a donné de très beaux résultats, montre dans quelle estime on tenait le docteur Charron. La souscription reste ouverte et tous les confrères qui désirent contribuer à ce fonds peuvent encore le faire.

Notes sur le nombre des étudiants en chirurgie dentaire

—Pour la première fois depuis trente ans, une nouvelle faculté dentaire—à l'Université du Manitoba—a commencé à recevoir des élèves.

—Le nombre des étudiants dentaires a augmenté de 37 depuis l'année dernière. Cette augmentation est surtout due à l'inscription d'élèves à la nouvelle faculté du Manitoba. Les nouvelles inscriptions à l'Université de Toronto sont montées de 80 à 90, en prévision de la nouvelle bâtisse en construction.

—Le nombre des dames aux études est de 36, en comparaison de 25, l'an dernier.

—Il n'y a qu'un seul cours d'hygiénistes et pourtant, malgré la grande demande pour des hygiénistes dentaires, le nombre des étudiantes est plus petit que celui de l'an dernier.

—Les facultés dentaires ont fourni 203 nouveaux dentistes en 1958. Ce nombre, si on le compare aux chiffres des décès et des retraites et à ceux de l'augmentation de la population durant l'année courante, contribuera à aggraver la proportion du nombre des dentistes par rapport à celui de la population.

—Il y a 93 étudiants étrangers aux études dans les facultés dentaires canadiennes, cette année, quand il y en avait 70 en 1958. Il y a 43 étudiants canadiens dans les facultés des Etats-Unis et 50 étudiants des Etats-Unis au Canada.

—La province d'Ontario a le plus haut pourcentage et la meilleure proportion d'étudiants en chirurgie dentaire en comparaison du chiffre de la population.

—Les facultés dentaires, l'an dernier, pouvaient recevoir 205 nouveaux étudiants. Cette année, ce nombre est de 263.

—Le coût des frais de scolarité pour les quatre années du cours, des instruments, des manuels, des fournitures et des autres dépenses ordinaires ont augmenté, cette année. Cette somme varie de \$2,340.00 à \$4,020.00.

—Le nombre de demandes pour des études dentaires a augmenté, cette année, dans trois facultés et diminué dans deux autres.

TABLEAU no 1
Inscription des étudiants — Année académique, 1958-59

	étudiants ordinaires							autres étudiants				
	1 ^{ère} année	2 ^e année	3 ^e année	4 ^e année	hommes	femmes	Total	*diplômés	**post-scolaires	***passagers	hygiène dentaire	
											1 ^e année	2 ^e année
Dalhousie	14	12	12	17	52	3	55					
McGill	38	32	38	36	137	7	144					
Montréal	57	34	48	39	174	4	178		5	3		
Toronto	90	76	79	74	300	19	319	2	15	5	5	9
Manitoba	21				20	1	21					
Alberta	30	27	26	24	105	2	107					
TOTAL	250	181	203	190	788	36	824	2	20	8	5	9

*L'expression "étudiants diplômés" signifie les dentistes inscrits à l'Université, dans l'Ecole pour Diplômés, et qui suivent un cours qui donne droit à un titre.

**L'expression "étudiants post-scolaires" signifie les dentistes inscrits dans une faculté dentaire pour y suivre un cours qui donne droit à un titre ou à un diplôme.

***L'expression "étudiants passagers" signifie les dentistes inscrits dans une faculté dentaire pour y suivre un cours de courte ou longue durée ne donnant pas droit à titre ou à un diplôme.

TABLEAU no 2
Relevé des inscriptions des étudiants ordinaires, 1940-58

	1940-41	1950-51	1955-56	1956-57	1957-58	1958-59
Dalhousie	31	48	47	47	53	55
McGill	58	145	136	137	141	144
Montréal	104	196	161	184	176	178
Toronto	210	380	310	305	310	319
Manitoba						21
Alberta	51	114	115	112	107	107
TOTAL	454	883	769	785	787	824

TABLEAU no 3
Nombre total des diplômés, 1940-1958

	1940	1950	1955	1956	1957	1958
Dalhousie	12	11	13	13	11	16
McGill	13	36	35	33	29	34
Montréal	23	42	19	20	34	49
Toronto	56	168	78	76	78	75
Alberta	13	49	29	26	34	29
TOTAL	117	306	174	168	186	203

Diplômés de 1958	hommes	femmes
Dalhousie	15	1
McGill	34	—
Montréal	49	—
Toronto	72	3
Alberta	29	—
TOTAL	199	4

TABLEAU no 6
Formation prédenaire des étudiants

	2ième année	3ième année	4ième année	Diplôme canadien		Diplôme étranger	
				Bacheliers	Autres	Bacheliers	Autres
Dalhousie	19	3	3	23	—	—	5
McGill	25	16	9	50	1	37	6
Montréal	—	—	—	162	5	6	5
Toronto	181	41	35	33	15	3	11
Manitoba	5	6	2	5	1	2	—
Alberta	66	19	15	6	—	1	—

TABLEAU no 4
Distribution des étudiants par provinces d'origine et par pays étrangers

	Terre-Neuve	Ile-du-Prince-Edouard	Nouvelle-Ecosse	Nouveau-Brunswick	Québec	Ontario	Manitoba	Saskatchewan	Alberta	Colombie britannique	Etats-Unis	Indes occidentales	Bermudes	Guinée britannique	Hong Kong	Australie	Angleterre	Europe	Autres	TOTAL
Dalhousie	9	1	18	14		2	1			3	1		1			3	1	1		55
McGill	2		1	2	48	14	3	4		9	4	7	1	2	2		2	2	1	144
Montréal		1		7	163	3		2			2									178
Toronto						274	10	4		14	1	1			1	3		10	1	319
Manitoba							13	3		2	1				1				1	21
Alberta							5	22	58	19	1			1					1	107
TOTAL	11	2	19	23	211	293	32	35	58	47	50	8	2	3	4	6	3	13	4	824

TABLEAU no 5

A—Pourcentage des étudiants de chaque province

B—Proportion des étudiants en rapport avec la population de leur province d'origine

Province d'origine	Pourcentage	*Proportion
Terre-Neuve	1.33	1 / 39,818
Ile-du-Prince-Edouard	.24	1 / 50,000
Nouvelle-Ecosse	2.31	1 / 37,368
Nouveau-Brunswick	2.79	1 / 25,087
Québec	25.61	1 / 23,147
Ontario	35.56	1 / 19,805
Manitoba	3.88	1 / 27,188
Saskatchewan	4.25	1 / 25,371
Alberta	7.04	1 / 20,707
Colombie britannique	5.70	1 / 32,851
Canada		1 / 20,689
Autres pays	11.29	

*Les chiffres de population sont ceux fournis par l'Office National de la Statistique au 1er juin 1958.

Note: Les étudiants canadiens aux Etats-Unis ne sont pas compris dans ce tableau.

Canadiens inscrits dans des facultés dentaires des Etats-Unis:

Alberta	8
Colombie britannique	18
Manitoba	3
Nouveau-Brunswick	2
Ontario	7
Saskatchewan	5

TOTAL	43
-------	----

TABLEAU no 7
Diplômés possédant le titre de bacheliers

Classe de 1958	Total des diplômés	Diplômes de bacheliers	Pourcentage
Dalhousie	16	5	31%
McGill	34	25	73%
Montréal	49	48	98%
Toronto	75	14	19%
Alberta	29	8	28%
TOTAL	203	100	49%

Les étudiants peuvent-ils obtenir leur baccalauréat au cours de leurs études dentaires, finissant ainsi leurs études avec le diplôme de bachelier et celui de dentiste? Combien d'élèves ont fait de même en 1958?

Dal.	Mc.	Mont.	Tor.	Man.	Alb.
oui	oui	non	non	oui	oui
-	4	-	-	-	-

TABLEAU no 8
Date du début et de la fin des cours

	1958-1959		1959-1960		Les élèves de 1ière année s'inscrivent le:
	Début	Fin	Début	Fin	
Dalhousie	sept. 3	mai 14	sept. 9	mai 15	mai 30/59
McGill	sept. 8	mai 28	sept. 9	mai 29	mars 1/59
Montréal	sept. 9	mai 30	sept. 8	mai 29	août 1/59
Toronto	sept. 24	mai 27	sept. 23	mai 26	juin 1/59
Manitoba	sept. 8	mai 20	sept. 9	mai 21	avril 30/59
Alberta	sept. 2	mai 15	sept. 1	mai 18	avril 15/59

TABLEAU no 9

Nombre maximum d'étudiants pouvant être acceptés
en première année dans les différentes facultés

Dalhousie	25
McGill	38
Montréal	60
Toronto	80
Manitoba	30
Alberta	30
Total au Canada	263

TABLEAU no 10

Moyenne du coût des études pour les quatre années

	Dalhousie	McGill	Montréal	Toronto	Manitoba	Alberta
Frais de scolarité	\$1,680.00	\$2,400.00	\$1,900.00	\$2,200.00	\$1,800.00	\$1,500.00
Instruments	960.00	1,620.00	894.00	1,025.00	1,000.00	452.00
Volumes obligatoires	185.00	compris avec les instruments	226.00	200.00	400.00	218.00
Fournitures	70.00	compris avec les instruments	280.00	45.00	100.00	643.00
Divers	175.00	compris avec les instruments	67.00	400.00	100.00	100.00
TOTAL	3,070.00	4,020.00	3,367.00	3,870.00	3,400.00	2,913.00
Chambre et pension	2,500.00	*3,000.00	3,500.00	2,500.00	2,200.00	2,340.00
*Résidence à l'Université.						

TABLEAU no 11

Aide aux étudiants

	Dal.	Mc.	Mont.	Tor.	Man.	Alb.
Bourses d'études pour les étudiants	oui	oui	oui	oui	oui	oui
Prêts aux étudiants	oui	oui	oui	oui	oui	oui
Bourses d'études pour les diplômés	non	non	non	oui	non	oui

TABLEAU no 12

Inscription d'étudiants possédant des qualifications spéciales

	Dal.	Mc.	Mont.	Tor.	Man.	Alb.
Admission d'étudiants possédant des qualifications spéciales obtenues à l'étranger	oui	oui	oui	oui	oui	oui
No d'étudiants ordinaires dans cette catégorie	6	5	4	15		3
No de ces étudiants venant de:						
Australie	3			3		
Bulgarie			1			
Europe				10		
Allemagne						2
Grèce		2				
Hong Kong				1		
Hongrie				1		
Panama				1		
Pologne			1			
Lithuanie	1	2				
Roumanie			1			
Turquie			1			
Angleterre	2	1				
Yougoslavie						1

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Mandibular Condylectomy for Temporomandibular Joint Ankylosis—A Postoperative Evaluation*

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From time to time the oral surgeon is confronted with the problem of treating a patient with ankylosis of the temporomandibular joint. Such a condition may be produced by trauma, arthritis or infection. As is the case at most medical centres, the treatment of choice for this condition at the Department of Oral Surgery, University of Michigan, has been

resection of the mandibular condyle. A review of the literature failed to reveal any postoperative study of a series of condylectomies. It was therefore decided to make such an evaluation, not only as regards the clinical impression of the patient's postoperative status, but also to utilize some physical measurement of his actual masticatory ability. This, it was felt, would give some indication how disabling this operation was and also would allow a reliable mathematical comparison of biting force between post-condylec-

*From thesis submitted as partial requirement for M.S. degree, University of Michigan and presented before the thirty-fourth general meeting of the International Association For Dental Research, March 1956, St. Louis, Missouri.

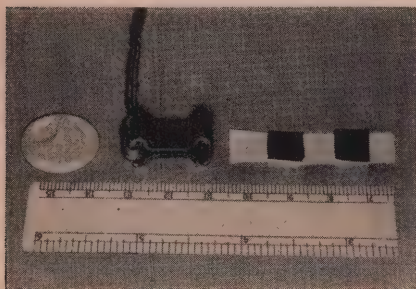


FIGURE 1

Bite-measuring device, rubber finger cot, and rubber tooth protector.

tomy patients and the average, unoperated man-on-the-street.

Although it is readily admitted that biting force is not the only or even the best criterion of masticatory efficiency, it appeared that it was appropriate for this study and would certainly be acceptable as one means of contributing to such an evaluation.

A type of gnathodynamometer was desirable for the purpose of measuring the biting force. Anderson² used the principle of strain gauges to measure loads by fitting his device into an inlay in a molar. The principle of strain gauges was chosen as most suitable for this study.

A roughly dumbbell-shaped, cast, titanium, load-measuring device employing cemented wire strain gauges was designed and fabricated (Figure 1). The metal was one and one-half millimeters thick and the space between the biting plates also measured one and one-half millimeters. The device was two centimeters long and one centimeter wide. The wire strain gauges were fixed to the inner surface of the hollow device at each of its terminals. These gauges were fixed, in turn, to connecting wires and thence to a recorder. By means of a Riehle Testing Machine it was possible to calibrate the device up to loads of two hun-

dred pounds. A series of increasing and decreasing load applications on the testing machine confirmed the accuracy of the instrument and indicated a negligible amount of hysteresis or lag.

To refine the device it was necessary to fix the wire strain gauges securely in place. This was required in order to protect these fragile objects from the repeated trauma which was sure to come from a long series of manipulations in the subjects' mouths. This was accomplished by coating the lead wires with a rubber-base, impression compound. A rubber finger cot was then fitted over the entire device plus the first inch or so of the lead wires (Figure 2). This provided a barrier from the moisture of the mouth for it had already been learned that saliva distorted the registrations. Two pieces of rubber innertubing, shaped to size (Figure 1) were then taped to both sides of the device over the finger cot where the teeth were to occlude (Figure 2). This rubber padding was used to lessen the subjective sensation of stress and pressure experienced through the tooth. This in turn, increased the confidence of the patient in the device by lessening his apprehension and fear of self-inflicted injury. It also served to prevent slippage on the smooth, hard metal and possible injury to the

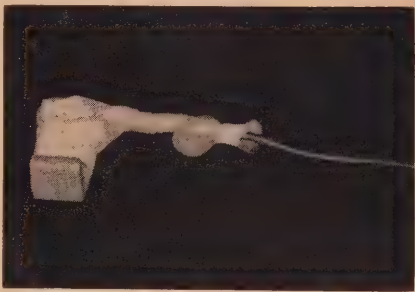


FIGURE 2

Bite-measuring device with finger cot and rubber protector in place ready for use.

tooth structure. A fresh finger cot and rubber protector were applied for each new subject.

The desire to have an apparatus which would accurately and permanently record the load registrations made by the test subjects was adequately satisfied by a Sanborn Twin-Viso Recorder (Figure 3). This machine registers on rotating graph paper the exact load applied by the occluding tooth.

An attempt was made to list as much information as possible regarding the patient's postoperative status. The present age, the age at operation, and the sex, headed the list. All missing teeth were recorded as were the large restorations (4 to 5 surfaces), artificial dentures and bridges. An inquiry into the patient's diet was made in order to determine whether or not restriction of dietary habits had been necessitated since operation and to determine if gastric disturbances were postoperative sequelae. The side of the mouth on which the patient preferred to chew was noted. Any recent dental aches or pains were listed along with gross decay. Mandibular deviation on opening and protrusive excursions, the full range of mouth-opening ability, temporomandibular joint signs and symptoms, and the



FIGURE 4

Bite-measuring device in place in right bicuspid region.

patient's opinion and attitude toward the surgical result were included. Full face and profile photographs were taken of each patient as well as temporomandibular joint and lateral jaw x-rays. The occlusal classification according to Angle as well as the overbite and overjet were recorded. General health status was also noted for its possible influence on the findings.

Pictures of the device positioned in the right bicuspid region with the lips apart, the device in place with the lips closed, and finally of the recorder, device and patient positioned in readiness for the test, are seen in Figures 4, 5 and 6. When force was applied, the wire strain gauge was deformed causing a change in resistance which was proportional to the load applied. This change in resistance was transmitted to the recorder which amplified the signal. The device was positioned carefully by the examiner between the teeth, beginning in the first molar region on the right side and proceeding to the left. The patient was admonished to bite as hard as he could in a single impact fashion rather than with a prolonged, steady increase in force. It was also requested that there be three successive bites in each position before the device



FIGURE 3

Sanborn Twin-Viso Recorder. Rotating graph paper can be seen at extreme left.



FIGURE 5

Bite-measuring device in place with lips closed.

was moved by the examiner to the next position.

RESULTS

For various reasons it was possible to induce only nine of the potential candidates to return to Ann Arbor for the study. The age range of the nine patients

was from seven to forty-seven years. Six were male, three were female. The time interval since operation ranged from eight months to fifteen years. None of the subjects had found it necessary to restrict his diet. None of them had suffered from any gastric or digestive disturbance that might have been expected, had the operation interfered markedly with mastication. Six of the nine cases were unilateral while three were bilateral condylectomies. Of the six unilateral cases, four preferred the operated side on which to chew. All three of the bilateral cases preferred the left side for chewing. All of the unilateral cases exhibited mandibular deviation to the operated side on opening excursions. There was no deviation of the bilateral cases on mandibular excursions. The range of opening ability was from one and one-half centimeters to four and one-half centimeters as measured between the central incisor edges. All of the subjects were pleased with the results of the operation as far as function was concerned. The cosmetic asymmetry, however, was of some concern to several of the unilateral



FIGURE 6

Bite-measuring device in patient's mouth ready for test. Note connecting wire leading to recorder.

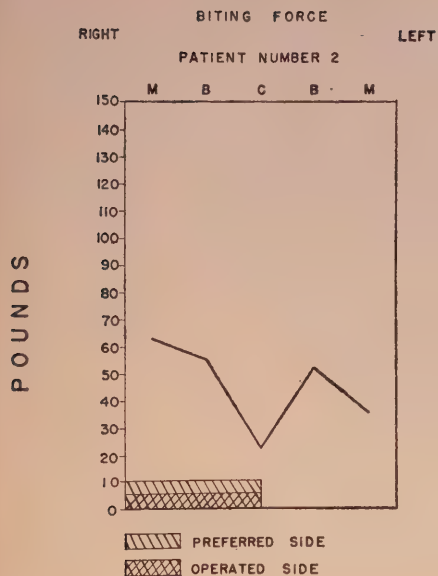


FIGURE 7

Graph illustrating biting force in respective positions in Patient No. 2, with operated and preferred chewing side indicated.

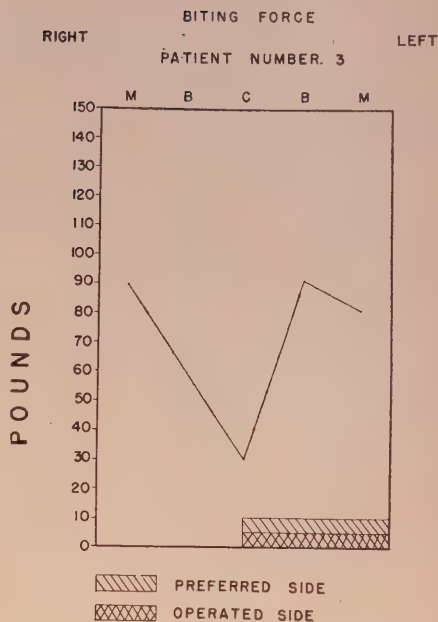


FIGURE 8

Graph depicting same information for Patient No. 3.

cases. Four of the nine patients had rheumatoid arthritis, three of which could be classified as far advanced cases. These same three patients had the bilateral operations performed. The maximum biting forces obtained, ranged from seven to one hundred and forty-seven pounds. Both of these were unilateral cases. Four of the six unilaterally operated cases registered the highest force on the operated side. Figures 7, 8, 9, 10. Three of these four cases were common to the four who preferred the operated side for chewing. The average maximum biting force of the nine operated cases was seventy-five pounds while that for the twenty-nine control cases was one hundred and one pounds.

One of the most satisfying graphs is seen in Figure 11, which compares the ability of the nine test subjects to open their mouths before and after surgery. This is important since this was the prime motive for the operation in all nine instances. Although the improvement in opening ability, as measured between the incisal edges of the centrals, varied from nine millimeters to forty-three millimeters, there was no question but that the operation was highly successful in this regard. The smallest improvement was in patient number nine, but even in this one, there was one hundred and fifty per cent improvement.

Figure 12 portrays a comparison of the average maximum biting force of five

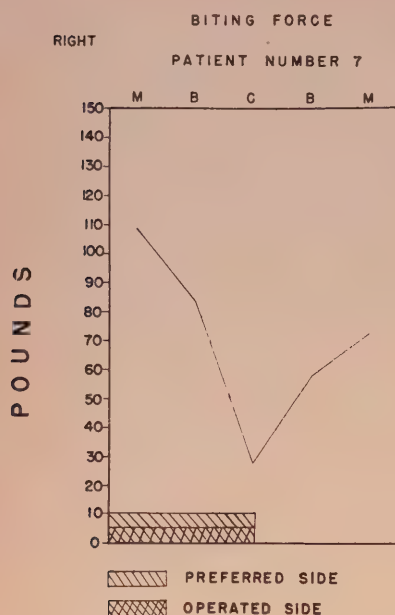


FIGURE 9

Graph depicting same information for Patient No. 7.

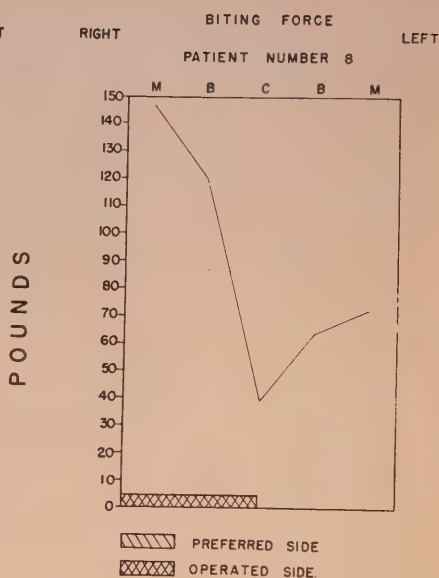


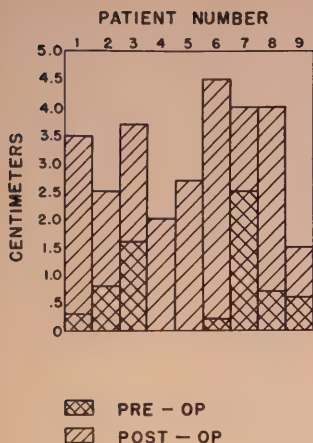
FIGURE 10

Graph depicting same information for Patient No. 8.

unilateral cases, three bilateral cases and twenty-nine control cases. This illustrates the marked decrease in biting force when both mandibular condyles are resected as compared with the unilateral cases. When one overlooks the seven year old girl, an even more surprising fact is that the average maximum biting force of the unilaterally operated cases was the same as the control cases. The justification for eliminating the test figures for the seven year old girl, who registered only seven pounds in all positions, lowering an otherwise impressive average, is that children in general register much lower biting forces than adults^{54, 53, 7, 20, 43, 33, 12}. The actual averages obtained were fifty-

two pounds for the bilateral cases, one hundred and three pounds for the unilateral cases and one hundred and one pounds for the controls.

The clinical deformities are logical sequelae to such an operation. With the resection of the mandibular condyle and loss of function of the external pterygoid muscle, two basic activities are sacrificed. These are the growth centre and the contralateral excursion and protrusion of the mandible. None of these operated subjects could perform a lateral excursion toward the unoperated side. Any attempt at protrusion was met by failure in the bilateral cases and by a modified protrusive excursion deviating markedly to the



PRE AND POSTOPERATIVE OPENING
ABILITY AS MEASURED BETWEEN
THE CENTRAL INCISOR EDGES

FIGURE 11
(Self-explanatory)

operated side in the unilateral cases. Growth on the operated side was deficient as illustrated by the photograph. This growth deficiency was directly proportional to the length of time since surgical intervention and inversely proportional to the age at operation. The youngest patient, who was seven years old when examined for this study, was operated at the age of two and one-half years. She showed the most marked deformity, Figure 13. It is characteristic for these patients to present with the chin deviated to the operated side and with flatness of the mandibular body region on the unoperated side. To the inexperienced observer it might appear that the flat side is the operated side, but such is not the case. The symphyseal deviation to the operated side is a direct result of normal, continued growth of the unoperated half of the mandible, coupled with deficient growth on the operated side.

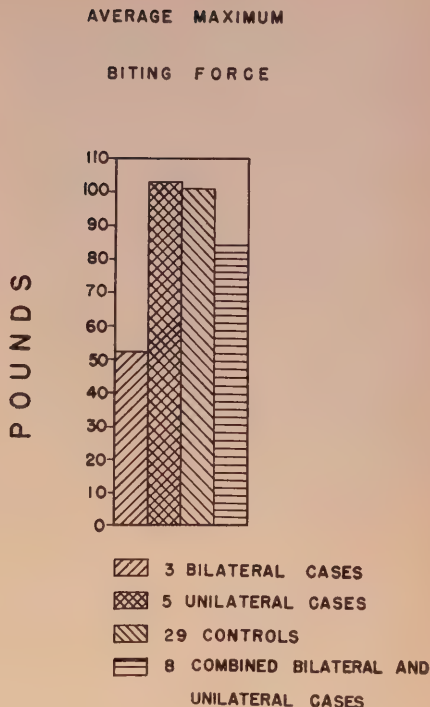


FIGURE 12
(Self-explanatory)

DISCUSSION

A review of the lateral jaw x-rays and DMF data revealed that there was no accounting on this basis for the higher biting force registration on the operated side in cases two, three, seven and eight of the six unilateral cases. However, since patients two, three and seven preferred the operated side for chewing purposes, the higher registration on this side might well be explainable on the basis of increased stimulus on this side. Brekhus, Armstrong and Simon,⁹ in a well controlled experiment, showed that the



FIGURE 13

Five year postoperative photo of patient No. 1, the youngest subject, showing resultant facial deformity from left mandibular condylectomy.

strength of the muscles of mastication was influenced by the amount of use to which the muscles were put, up to a physiological limit.

The fact that cases one, two, three and seven preferred the operated side for chewing is probably explainable on the basis of human masticatory physiology. With the lateral excursion to the unoperated side no longer available, the chewing pattern of the unilaterally operated individual would have to be modified. Accordingly, since the mandible can no longer deviate to the unoperated side, it can no longer produce a working bite on that side. Only a balancing bite is possible on the unoperated side and a balancing bite, in itself, is not conducive

to good masticatory efficiency. It would seem logical, therefore, for the subconscious, conditioned, chewing reflexes to be modified postoperatively to use the side on which a working bite is possible.

Although the three bilateral cases produced the smallest biting force of all nine cases with the exception of case number one, the seven year old girl, it is quite possible that these forces are smaller than they would have been had the patients not been suffering from rheumatoid arthritis. Also, with the preoperative opening ability markedly limited for many years in all three cases, muscle atrophy may have occurred without complete regeneration postoperatively. This would tend to decrease muscle power in these individuals.

The question of whether the temporomandibular joint is or is not a pressure-bearing joint has been a topic of controversy in dental circles for years. Roydhouse³⁹ has recently presented an argument, based on his interpretation of the principles of statics as applied to masticatory function, which purports to prove that the temporomandibular joint is a pressure-bearing joint. This study may not have shed much light on the subject but it has shown that patients without both condyles can exert some degree of biting force even though it is not great. Furthermore, it appears adequate for human sustenance and that fact is significant. The replacement of the resected condyles by Ticonium prostheses in case number nine did not appear to materially increase that patient's biting power over that of case number five, a similar bilateral case. Both of these patients suffered from advanced rheumatoid arthritis, but the latter patient had had no prostheses implanted. This finding, we feel, supports the non-pressure-bearing theory. The fact that four of the six unilateral cases exerted greater biting force on the operated side also tends to refute the premise that the temporomandibular joint is pressure-bearing.

SUMMARY

1. Nine postoperative mandibular condylectomy cases, three bilateral and six unilateral, were reviewed on patients ranging from seven to forty-seven years of age. The time interval since operation ranged from eight months to fifteen years. One bilateral case had Ticonium condylar prostheses implanted to replace the resected condyles.
2. Of the six males and three females examined, none had restricted diets or gastric disturbances as sequelae of his operation. All nine patients were very pleased with the improvement in function resulting from the operation.
3. The improvement in opening ability as measured between the central incisor edges ranged from nine millimeters to forty-three millimeters. Four of the six unilateral cases preferred the operated side on which to chew.
4. An original form of gnathodynamometer, utilizing the well established principle of strain gauges, served to make biting force readings on the test subjects. These readings were made in the first molar, the bicuspid and the central incisor regions.
5. The highest biting force registered was one hundred and forty-seven pounds while the lowest was seven pounds, both of these being unilaterally operated cases. The average maximum biting force of the nine operated cases was seventy-five pounds while that for the twenty-nine controls was one hundred and one pounds.
6. There was definitely more pronounced antegonial notching on the operated side in four of the six unilateral cases. Also, the mandibular condyle was well forward of the eminentia articularis on open-mouth temporomandibular joint x-rays on the unoperated side in five of the six unilateral cases.
7. None of these patients could perform a lateral excursion toward the unoperated side and growth on the operated side was deficient in an antero-posterior direction. This was exemplified by deviation of the chin to the operated side and flattening

of the face in the mandibular body region on the unoperated side. This growth deficiency was directly proportional to the length of time since operation and inversely proportional to the age at operation.

8. There was no open-bite deformity but retrusion was present in several of the cases, both bilateral and unilateral.

9. An explanation is attempted to justify the fact that four of the six unilateral cases preferred the operated side on which to chew and that the highest bite registration was made on the operated side in four of the six unilateral cases.

10. The question as to whether the temporomandibular joint is pressure-bearing is raised and the writer suggests that the results of this study tend to disfavor this hypothesis.

CONCLUSION

Patients who have mandibular condylectomy performed for temporomandibular joint ankylosis do better in regard to postoperative function than was previously supposed.

306 Birks Bldg.

ACKNOWLEDGMENT

The author is indebted to the Dental Materials Department, School of Dentistry, University of Michigan, whose assistance in this study was appreciable, particularly to David Mahler, Ph.D., who gave fully of his engineering knowledge and wise counsel.

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Facial Edema, Fever, Cause Unknown

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CASE HISTORY REPORT

On May 9, 1957, a three-year-old boy presented at my office with a large swelling of the left maxillary area and high fever. Intramuscular penicillin was given, supported by oral penicillin suspension.

On May 17, 1957, eight badly decayed deciduous molars were extracted. Recovery was uneventful.

On August 3, 1957, the child presented for a detailed examination. Medical history disclosed that he had been extremely ill with an intestinal virus infection when a few weeks old, and that he had always had a low resistance to infection. He had no organic abnormalities.

Clinical examination revealed that the deciduous upper centrals were now chronically abscessed; that the four deciduous cuspids were hypoplastic, but otherwise healthy.

Full mouth x-ray examination revealed a mysterious translucency at the apices of the lower centrals.

The upper and lower centrals were extracted on August 6, 1957.

On September 7, 1957, upper and lower impressions were taken and on September 24 upper and lower dentures were inserted. The natural upper and lower laterals and cuspids remained in the mouth in apparent good health.

The patient wore the dentures without complaint until about January 1, 1958, when he broke his lower denture. On January 14, he appeared at my office with some discomfort in the mandible, attributed at the time to trauma on the remaining

four lower teeth due to absence of his lower denture for about two weeks. The denture was repaired and re-inserted.

On January 15, the patient appeared again, this time with the right mandibular area badly swollen accompanied by high fever. Three x-rays were taken of the right side. No infection in the right mandible or maxilla was evident. The lower denture was removed. The parent was advised to seek a complete physical examination, including blood studies with the medical practitioner. The medical practitioner hospitalized the patient and put him on ilotycin. The symptoms disappeared on January 21, 1958, with the medical doctor's assurance that there would be no recurrence. No medical explanation for the condition was given.

At this time the dental x-rays, and a complete history were sent to an oral surgeon for an opinion. From the x-rays, the opinion was, "I see no evidence of infection in this case."

On February 22, 1958, the mother called to report that the child's face was badly swollen and he was running a high fever. The patient was sent immediately to the aforementioned oral surgeon for examination. The consultant could find no positive dental cause for the child's trouble. He advised investigation by an outstanding pediatrician.

During this period an acrylic patch test gave no reaction.

On February 24, 1958, the mother reported that she gave the child a hot bath, after which he had a bad nose bleed, the

"boil" at the midline of the maxilla broke, and the child experienced almost immediate relief and symptoms disappeared.

Nothing more was reported to me until September 10, 1958, when the child again appeared with the swelling of the maxillary region. At this time the upper left cuspid was fistulous. Upper left and right laterals and cuspids were extracted. No decay existed but both cuspids were dark, with putrescent pulps. At this visit the parent informed me that since I had last talked to her, the patient had been in Sick Children's Hospital for a period of observation. The parents had been assured that the child's problem was non-dental, but no further findings were divulged.

On October 3, 1958, the patient again presented with swelling and pain in the left mandible. The lower left lateral and cuspid were extracted. The cuspid, though undecayed, was dark, and the pulp putrescent. The lower left permanent central incisor was noted to be erupted and quite

mobile, due to the fact that at this point it had no root.

The parent was instructed to bring the child back in one or two weeks for extraction of right lateral and cuspid before they caused any distress. They have not called back to date.

DISCUSSION

It would appear that the teeth are related to the condition, but in an unusual and inexplicable way. The fact that relief was obtained from extraction of the teeth in the area points to them as the focal point of the infection.

A complete history was taken in my office and in the office of the consulting oral surgeon, yet the possibility remains that the child may have experienced severe trauma to the face a long time ago, which resulted in the death of all the anterior primary teeth. It is possible that the parents now have no recollection of such an incident.

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Multiple Dentigerous Cysts in a Child of Ten

JOHN A. FOLKINS, D.D.S., I.D.S., *Vancouver, British Columbia

Article No. 5

Lesions, whether they be malignant or benign, have no respect for age. They are found in the very young as well as in the very old. Certain lesions have a higher rate of frequency in certain specific age groups. For example: The ages of forty to sixty are commonly known to be the danger years for carcinoma in various anatomical sites; the years of its greatest incidence. But this type of lesion, like many others, can occur both before and after these years. The dentigerous cyst is one lesion whose origin is peculiar to a specific age group, the pre-adolescent.

The dentigerous cyst originates when the crown of the deciduous or permanent tooth is being formed. The development is found on the surface of the enamel organ when amelogenesis is just being completed and the epithelial cells of the stellate reticulum are undergoing retrograde changes. Fluid is then thought to accumulate through transudation from the perifollicular tissues producing an expansion of the enamel organ with the dental follicle around the crown of the tooth forming the fibrous membrane of the cyst, and the epithelial lining of the cyst being derived from the external epithelial layer of the enamel organ.

Microscopically the cyst wall is composed of fibrous connective tissue and the epithelial lining is of the stratified squamous type. The fluid content of a sterile cyst is clear and amber colored, but occasionally it is thick and mucoid containing dead epithelial cells and hemorrhagic debris.

The fact that dentigerous cysts generally produce no symptoms in their incipient stage, even when large, explains why they may not be discovered for years. Berwick, in 1949, in a study of two hundred and seventeen cases of dentigerous cysts found them to be equally divided between maxilla and mandible. The youngest patient was twenty-two months and the oldest seventy-five years. Statistics indicate a familial tendency towards the production of odontogenic cysts. Multiple cysts may occur in one or both jaws, in various locations, each from a different enamel.

Why some cysts enlarge quickly and others develop very slowly is one question which pathology has not yet fully answered. Experiments by Toller support the theory that the hydrostatic pressure within cysts is one factor influencing their growth. He states that if the hydrostatic equilibrium is maintained between the cystic pressure and the surrounding vascular and tissue pressures there is always the tendency to a slightly greater pressure

*Oral Surgeon—St. Paul's Hospital, Children's Hospital, Vancouver, B.C. Member, American Society Oral Surgeons, Canadian Society Oral Surgeons.



FIGURES 1A AND 1B
Preoperative radiographs of maxillary lesion.

within the cyst due to the osmotic imbalance and it is likely that this osmotic pressure is responsible for the increase in size of the cyst.

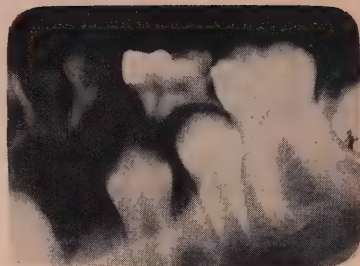
Radiographic examination of large cysts should always include larger film exposures as well as dental films in order to get a clearer picture of the dimensions of the lesion. Aspiration of the cystic fluid is an important feature in differential diagnosis as it may facilitate distinction between a cyst and a solid tumor. The transformation of a dentigerous cyst into an adamantinoma is not uncommon and cases are recorded where these cysts have undergone squamous cell carcinomatous change. Treatment consists of complete enucleation or marsupialization.

As a sequel to the article on "Cystic Appearing Lesions of the Jaws" it may be interesting to consider the presence of two large dentigerous cysts in a child of ten, one in the mandible and one in the maxilla, the latter involving the maxillary antrum necessitating the closure of a large oroantral fistula.

CASE REPORT

A ten year old boy was referred for diagnosis and treatment of two large cystic appearing lesions, one in the maxilla and one in the mandible. The boy had told his mother he had a swelling in the upper jaw and, after looking into his mouth, his mother took him to the family dentist.

Examination of the mouth showed a definite expansion of the right maxillary and mandibular alveolar ridges on the buccal surfaces. Radiographic examination revealed the presence of two large areas of radiolucency, one in each jaw. (Figs. 1A and B, 2A and B). Both areas appeared to have a definite line of demarcation, and in both areas the crowns of the unerupted teeth seemed to be involved. The maxillary area was the larger of the two and appeared to extend almost to the floor of the nose and the floor of the maxillary antrum. Tentative diagnosis: Dentigerous cysts.



FIGURES 2A AND 2B
Preoperative radiographs of mandibular lesion.

OPERATION

Treatment of the maxillary lesion appeared to be the more demanding of the two and arrangements were made for hospitalization. An otolaryngologist was asked to be part of the treatment team in case the lesion involved the floor of the nose or maxillary antrum.

Under general anaesthesia the lesion was approached by removing the two deciduous teeth and the permanent bicuspid and then by dividing and retracting the gingival mucosa both lingually and buccally. After drainage of the cystic fluid the two permanent teeth involved in the lesion were located and removed after which the lesion itself was removed and forwarded for pathological examination. The floor of the nose was not involved but the lesion did involve the membrane of the maxillary sinus and a large opening into the sinus was unavoidable. A nasooantral window was inserted after which the cystic and antral cavities were lightly packed with half-

inch petrolated gauze as a precaution against bleeding. The tag ends of the drain passed through the nasooantral window and rested in the right nostril from which position the drain could be grasped for withdrawal at a later date.

The two flaps, which were retracted in order to gain access to the lesion, were now approximated. The adjoining edges of both flaps were trimmed to obtain a complete approximation. Tension on the buccal flap was relieved by undercutting the mucosa, and the palatal flap was relieved by an incision extending from a point lingual to the lateral tooth and half way between the alveolar crest and the midline of the palate, and extending distally to a similar point lingual to the unerupted second molar. The palatal mucosa lateral to the incision was then lifted from the periosteum, thus permitting it to approximate more readily with the flap from the buccal surface which had been similarly relieved. The flaps were then approximated and sutured. The open in-

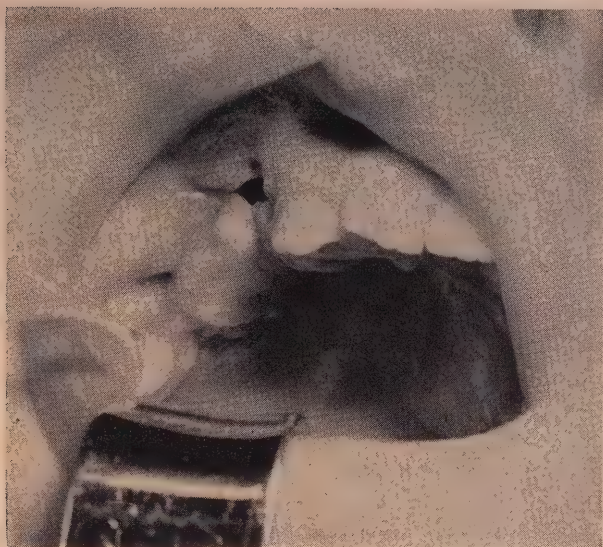


FIGURE 3

Note two oroantral fistulae after failure of first attempt at closure.

cision on the palate was packed with oxycellulose. (Fig. 4).

On the fourth postoperative day the drain was withdrawn through the nose and on the seventh day the sutures were removed. The oroantral fistula had not closed and instead of one large opening into the sinus there were now two smaller ones. (Fig. 3).

The patient was discharged until the lines of incision had completely healed. The family dentist was requested to insert a temporary acrylic splint, heavily undercut over the area of the fistula as a protective measure both then and after the second closure which would be attempted

in a few weeks' time. In the meantime the pathological report confirmed the diagnosis of dentigerous cyst.

One month after his discharge the second attempt at closure was made in the office using local anaesthesia. In order to approximate the tissues the same surgical method was used with one step added in order to further reduce the tension on the approximating edges of the flaps. Two Vitallium buttons had been prepared. One was applied well up on the buccal flap and one on the palatal flap, and these were held in position by passing a double stranded "O" silk suture in and out through both buttons deep to the suture

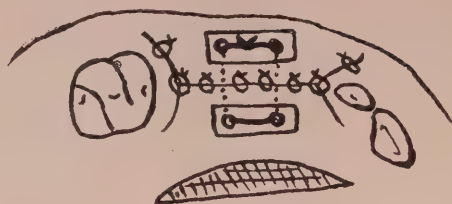
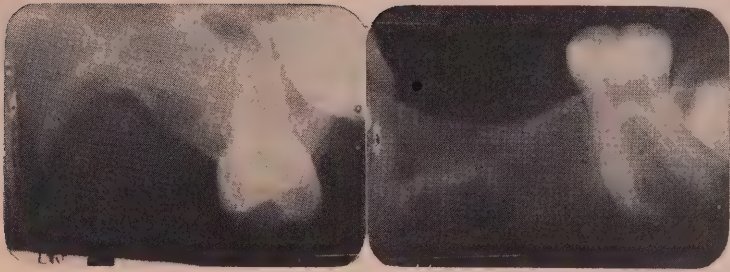


FIGURE 4
Diagram illustrating place-
ment of two Vitallium
buttons.



FIGURE 5
Photograph showing Vitallium buttons in place.



FIGURES 6A AND 6B

Postoperative radiographs showing complete healing of the cystic areas.

line, and tied on the buccal surface. (Figs. 4 and 5.) The splint was then reinserted as a protective measure.

On the seventh postoperative day the sutures and buttons were removed and the fistula had completely closed. The following week the mandibular cyst was enucleated and also proved to be a dentigerous cyst. Radiographic examination some months later revealed that healing had been complete. (Figs. 6A and B.)

SUMMARY

Since this patient was a ten year old boy the acrylic splint was inserted as part of a second treatment plan, not only to prevent food from entering the cavity,

but also to prevent the child's busily exploring tongue from disturbing the sutures after the second closure.

It was felt that the failure of the first closure was due to two factors: interference by the tongue, and the natural pull of the soft tissues in their attempt to heal in their original positions, thus creating tension on the suture line. At the second closure this tension was overcome with the aid of the Vitallium buttons and accessory suturing. These sutures relieved the tension on the original suture line and the buttons prevented these accessory sutures from cutting through the tissues.

THERE ARE THREE REFERENCES.

925 Georgia St. W.

Psychiatry & Being — When I consider the brief span of my life, swallowed up in the eternity before and behind it, the small space that I fill, or even see, engulfed in the infinite immensity of spaces which I know not, and which know not me, I am afraid, and wonder to see myself here rather than there; for there is no reason why I should be here rather than there, now rather than then. — *Pascal: Pensées (circa 1656)*

Progress Report

JOHN V. BORDEN, D.D.S., Washington, D.C.

The field of operative technique has been characterized by considerable turbulence in the last five years. This, of course, is merely the typical symptom of change. When we realize however, that our technique remained unchanged for decades, we should be thankful something occurred to give notice that the dental profession is engaged in progress. Still, change has met resistance.

Probably the greatest impediment to progress is the philosophy of "time honoured" entities, which in effect says, "Don't accept the new." If we are a progressive profession, interested in accelerating development of new ideas, then we should adopt an attitude that encourages and aids innovations. It is interesting to find that the many accusations made against the use of ultra-speeds have one by one disintegrated under the test of experience. It should serve to remind us, once again, that opinions are not necessarily facts.

Rotary procedures fall into either of two categories: Bulk removal requiring high efficiency, and finishing and polishing done with less speed. The dentist who uses a conventional instrument obtains his efficiency from large diameters or pressing. This, then, is one shortcoming of the conventional instrument — it is better at finishing than removing mass, unless one is not concerned with the amount of trauma created. The true basis of modernizing operative technique therefore is the use of speed rather than force. Since this is somewhat the reverse of "old time" technique, the prospect of such a change at one time seemed discouraging. It serves

as a compliment of the highest order that the profession, because of its talent, is making this change with no difficulty.

Ultra speeds have brought to the profession a series of advantages:

1. Large diameters are not necessary.
2. The carbide bur takes on a whole new performance.
3. Trauma is reduced.
4. The drudgery is gone because all types of preparations can be made so easily, and safely.

The convenience and versatility of small points, in performing the work of discs and large stones, is not readily appreciated. Strangely, in fact, some resent not being able to use their accustomed large sizes. It should be pointed out that the large diameter falls into discard by choice, when using ultra-speeds because the elements of convenience and safety predominate. As an example, the operator finds himself eliminating the multiple shapes, gravitating to techniques involving a single point for cavity preparations and just a few shapes for crowns. Proximal cuts are made with a bur or thin-pointed diamond. The occasions for using a disc are extremely rare. In essence, the entire concept of operating is amazingly simple.

The operative problem deals with the rotation of blades or grit against tooth materials.

The following are submitted as observations:

- (1) At ultra-speeds, blades equal the performance of grit.
- (2) Blade action creates less friction than grit.

- (3) In dentine, blades are more efficient. Conversely, diamonds provide somewhat better tactile sensation.
- (4) Metals are best cut with blades.
- (5) Medium grit diamonds for bulk removal; finer grit for cavity preparations.
- (6) Points should be less than $\frac{7}{8}$ " in length (overall).
- (7) A dull bur can create dangerous heat.
- (8) Diameters of wheels should not exceed $\frac{1}{4}$ ".
- (9) Open cavities wide to let coolant in.
- (10) Wear glasses.

Many opinions of turbine performance seem to be based unwittingly on its use at settings of the highest air pressures. Used at various air pressure settings, the air instrument finds wider use and greater satisfaction. In general, the following settings are suggested:

- (1) High — 25-30 lbs. — Bulk Removal, especially with diamond points of large diameter.
- (2) Medium — 15-25 lbs. — Cavity preparations.
- (3) Low — 10-15 lbs. — Finishing, decay removal and spot grinding.

It is true that the air turbine contra-angle will not perform all operative procedures. Some therefore contend that it is only an auxiliary instrument. The reverse is true because properly handled it will perform eighty per cent of rotary work. The conventional instrument is the auxiliary.

The ultra-speed instrument offers the dentist and patient a new type of more desirable dentistry. The difference is so significant that it can be stated honestly that the dentist who does not avail himself of these efficient tools is handicapping himself and his future.

Washington 6, D.C.

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and lectures by:

- | | |
|---------------------|---|
| Dr. John W. Neilson | —Dean of Dentistry, University of Manitoba. |
| Dr. Floyd Jacobson | —Head, Dept. of Oral Diagnosis, University of Washington. |

For accommodations write: Dr. T. A. Alexander, 901 Greyhound Bldg., Calgary, Alberta.

Factors to Consider in Sound Operative Procedures

ERNEST R. AMBROSE D.D.S.*, Montreal, Quebec

I. PREVENTIVE MEASURES

A. Oral Hygiene:

- i) Proper and timely tooth-brushing habits.
- ii) Interdental cleansing and stimulation.

Human nature being what it is and clinical observations over many years, indicate to us that satisfactory caries control is not possible for the majority of the population by these methods, especially in cases where rampant caries exists.

However, proper home care is necessary if the health of the periodontal tissues is to be preserved or improved. Therefore, education of all patients entering offices or clinics is essential.

B. Diet:

A well balanced diet, based on Canada Food Rules, will aid in proper development throughout the body. A control on the intake of refined sugars and starches, can markedly reduce the caries advance rate, in susceptible individuals.

Family economics, education and patient cooperation complicate this picture considerably. Also the percentage of people who will and can follow specific dietary requests is rather small when we view the caries problem as a nationwide, indeed an almost worldwide, stockpile.

C. Fluoridation of Communal Water Supplies:

This to date has been our greatest preventive weapon. As time passes, communities will more rapidly adopt this practical, painless way, to slow down the advance of one of the most prevalent afflictions—the breakdown of tooth structure.

Topical applications of various fluoride solutions, will have varying degrees of success, depending on how well the treatments are carried out. But this method is by no means as practical as the fluoridating of local water supplies to 1 P.P.M.

D. Interceptive or preventive orthodontics, as well as complete treatment plans, can place the teeth we have in their best functional relationship, and by so doing, establish normal proximal contact areas, which aid in the reduction of caries susceptible tooth surfaces.

E. When breakdown of tooth structure exists, the acceptable way to restore these tissue losses is by one of the restorative materials we have at our disposal.

Endodontic procedures are often necessary and indeed essential to successful restorative procedures.

Operative dentistry must be considered a preventive part of dental treatment, as it has attempted to be for many years. A healthy condition exists when all decalcified and carious tooth structure has been removed, and adequate functional restorations that will prevent further breakdown, have been placed.

*Assistant Professor and Chairman, Department of Operative Dentistry, Faculty of Dentistry, McGill University.

II DIAGNOSIS AND PATIENT EDUCATION

Satisfactory radiographs, oral diagnosis and treatment planning, are essential to ensure, that upon completion of treatment, the hard and soft tissues of the mouth will be in a good state of health: and that any diagnosed systemic disturbance present, will be brought under control if possible.

Consultations with recognized specialists from the Dental and Medical professions, are often necessary to bring about the optimal state of oral health.

Many developments over the past ten to fifteen years in research on dental materials and methods of cutting hard tooth structure, are introducing welcome changes in the daily practice of operative dentistry.

These must be critically evaluated by the practising dentist, as well as the institutions responsible for the education of dental students. Clinical results, the tests of time, are essential parts of progress that we cannot ignore.

Coupled with scientific progress in the last two decades we have experienced an ever changing economic situation. Many young men entering practice seem more aware of this situation than some men who have been in practice for years. We must, in all fairness to the profession, see to it that the fees for services rendered are consistent with today's standard of living.

Public education, concerning the fees required to produce a high standard of achievement in our professional endeavours, is often necessary. Usually when this is explained simply and carefully most patients will accept our treatment plans, and be very cooperative. The manner in which this aspect of dental practice is handled, can improve or jeopardize relations between the Dental Profession and the Public. Within one to three appointments we should be prepared to:

a) Inform our patients as to their complete state of oral health, and within reason how many appointments will be

required for us to complete our services to them systematically.

b) Inform them of the probable cost of such a program, regardless of how little or great the fee may seem to us.

c) If it seems pertinent, suggest possible methods of treatment, taking into consideration economics and the physical-mental make up of the patient.

I feel that we are guilty far too often, of contributing to poor public relations, by not adequately presenting our excellent health services to people, in a sensible concrete form that they can understand. Patient education is needed more in this country now than at any other time in our history, if we want the practice of dentistry to continue, in somewhat the same form we are accustomed to to-day.

III OPERATIVE PROCEDURES

The recent advances in the rapid removal of hard tooth structures, with much less fatigue to the dentist and the patient, should lead to a new high level of efficiency in operative dentistry.

The ease with which we can now produce cavity outline forms, on a good percentage of tooth surfaces, gives adequate opportunity to better prepare the internal portions of the cavities. This same reasoning should apply to the proper handling of dental materials, which we abuse far too often.

Once the cavity outlines have been prepared for a reasonable number of teeth, visibility and the insertion of our best restorative materials require a dry field. In the majority of cases the application of the rubber dam to isolate a quadrant of the oral cavity, will best meet these requirements. Completion of cavity preparation and tooth restoration under these ideal conditions should become more of an economic reality than ever before.

With such a mental picture as this, more excellent amalgam and gold restorations, could be placed per week. Inserted under such ideal conditions, they would last longer.

We are then truly satisfying a crying need — better treatment for more people that will last longer.

Conversely, if we allow the high speed cutting tools, to encourage us to take too many patients, for too short periods of time to accomplish anything worth while, before long we will have even more problems.

It is not the number of cavity preparations we can "rough out" in a half hour that counts. But, it is the number we can adequately restore, once they have been well prepared, and how long it will take us to complete this latter phase of the procedure, that means the most to the public and ultimately to the profession. About ease of initial cavity preparation there is no doubt. More and better restorations, both by technique and research in

dental materials, are crying needs of the profession and the public. This would enable us to render a better health service, on a reasonable fee scale, to a greater percentage of the population.

Until the prevention of dental caries is an established entity for all, the restoring of hard tooth structure, the preservation of tooth vitality and function and the maintenance of healthy gingival tissues, will continue to be a very positive form of Preventive Dentistry and occupy many of our working hours.

As the years slip by in the art and science of dentistry, research and clinical experience should teach us to modify our office and treatment procedures. These very desirable changes benefit both our patients and the dental profession.

Montreal General Hospital

Canadian Society of Dentistry for Children Province of Alberta Forms New Chapter

C. CASTALDI, D.D.S., *Edmonton, Alberta*

It has been pointed out previously, that the Canadian Society of Dentistry for Children is largely composed of dentists practicing in Ontario. Unquestionably this is due to a number of factors probably the most important of which have been the attention given to the subject of dental care for children by Dean Roy Ellis of the Faculty of Dentistry and even more so by the untiring post war efforts of Dr. Sandy MacGregor also of Toronto whose enthusiasm for the subject was at a high level long before World War II.

Attempts to set up component chapters in the other provinces in Canada have not been very successful. In view of the fact that in a policy statement made in 1956 by the Canadian Dental Association² on prepaid dental plans it was pointed out that only dental services for the young age groups should be included, it would seem good sense on the part of Canadian dentists to associate themselves with a body whose aims are: "The advancement of knowledge of all phases of dentistry for children and the dissemina-

tion of this knowledge to the profession and the public." An additional and even more practical reason is that until very recently very few courses in dental care for children were offered by Canadian dental schools. The fact that under Canadian income tax laws refresher courses are not deductible items, whereas most organized dental society fees are, lends even more support to the desirability of setting up provincial chapters of the C.S.D.C.

Following correspondence with Dr. Gordon Nikiforuk and personal communications with several dentists in Alberta known to be quite interested in dental care for children it was decided that an attempt should be made to organize a new chapter of C.S.D.C. Dr. R. A. Rooney, Secretary of the provincial body kindly consented to include an announcement to this effect in one of the routine communications being sent out to all members of the Alberta Dental Association.

This announcement described the aims of the C.S.D.C. and requested all dentists who were interested in helping organize an Alberta chapter to indicate so by filling out a small questionnaire which was attached to the announcement.* Fifty-two dentists replied and it was decided to hold an organizational meeting in conjunction with the general spring meeting of the Alberta Dental Association.

Attending this first meeting were Drs. W. Quigley, G. Swann, G. Minty, W. Calhoun, Dean Scott Hamilton of the Faculty of Dentistry, and N. Basaraba, R. Mullen, G. Kluzak, G. Street, and C. Castaldi. It was indeed gratifying to note that half of the men in attendance are specialists in orthodontics in Alberta. All of these men have lent their strong support to the setting up of the new chapter and have become members.

An executive consisting of the author

as president, N. Basaraba as Secretary for Northern Alberta and G. Kluzak as Assistant Secretary for Southern Alberta was chosen. It was decided to model the Alberta chapter after the Ontario chapter with respect to having one scientific meeting per year and having an annual membership fee of \$10.00 which would include the fee for attending the meeting and a luncheon to be held in conjunction therewith. Plans were made to hold the first scientific meeting in conjunction with the Biennial Refresher Course of the Faculty of Dentistry, University of Alberta, on September 4-5, 1958.

Sixty-two members attended the first scientific session where Dr. Joseph E. Muhler of Indiana University, School of Dentistry, lectured on the subjects "Topical Stannous Fluoride," and the "Relationship of the Endocrine Glands to Dental Caries." Copies of Dr. Muhler's address on Topical Stannous Fluorides were sent to all members unable to attend the meeting. An open meeting of all members was held where the future plans of the chapter were discussed. The executive suggested that to ensure continued success of the chapter an attempt should be made to set up a clinical research program directed by the Faculty of Dentistry of the University of Alberta and to embrace subjects which members of the chapter could participate in through their office practices. It was decided to hold the next scientific session in conjunction with the Western Canada Dental Society to be held June 1, 2, 3, 1959, at Banff, Alberta and to invite all those dentists in Western Canada who are interested in recent developments in dental care for children to attend this meeting.

In December, 1958, a project was set up to study pulp therapy in primary molars with apical abscess which ordinarily are considered logical extraction cases. Mimeographed material was distributed to all members of the chapter outlining an evaluation procedure standardized as well as is possible under clinical conditions.

*Those interested in organizing Chapters of C.S.D.C. in other provinces may use the same announcement if they so desire. Write to C. R. Castaldi, Faculty of Dentistry, University of Alberta, Edmonton, Alberta for a copy.

The membership has now risen at last count, to over eighty members about one fifth of the dentists in Alberta. Recently the executive reins were turned over to the new President and Secretary Dr. G. Minty and Dr. G. Kluzak respectively of Calgary.

This description of the beginnings of a new chapter of the Canadian Society of Dentistry for Children was submitted for publication to the *Journal* in the hope that it might encourage the setting up of new chapters in other provinces. It is suggested that those interested in setting up new chapters contact the executive of their respective provincial dental associations for assistance in giving the matter some publicity.

Although it might be considered very desirable to have the children's department of a university dental school to serve as a nucleus for establishing a new chapter, this is not necessarily a pre-requisite.

Nor is this possible in all provinces in Canada. Most provinces contain at least one or two dentists whose practices consist largely of services for children. The knowledge of these men, if properly utilized, can serve to stimulate the interest of others in a newly organized chapter.

University of Alberta

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EDITOR'S NOTE

This progressive step deserves the warmest commendation. Those associated with the formation of the Ontario Chapter of the C.S.D.C. enthusiastically anticipated this day. Ideally, this brings the formation of a truly Canadian society into realistic focus.

The April issue of the *Journal of the C.D.A.* will offer a preview of a few of the paintings by the celebrated Dr. Solot of Paris.

The *Journal* reproductions will appear only in black and white but, even lacking colour, these unique and imaginative creations demand study and admiration.

This art exhibit is but one of the many good reasons for attending our National Association Convention.

Ed.

ABSTRACTS

Distal Extension Partial and Stressbreakers

J. EUGENE ZIEGLER, D.D.S.

Many different types of stressbreakers have been advocated through the years and some men have even advised against their use at all in construction of distal extension partial dentures.

If one follows the dictates of the fundamental principles involved, it is the opinion of the writer that, the distal extension hinge and box type stressbreaker fastened rigidly to the abutment anchorages, connectors and indirect retainers with the saddle free to move individually according to the varying conditions which occur on or under them during mastication, is the one of choice.

The double spring bar is the type of second choice as it has more limitations.

The hinge and box type precision stressbreaker has the following advantages:

All abutments can be fastened together rigidly for maximum strength and support without leverage from the saddles under stress. Indirect retainers, cribs and splints will not move away from the teeth they are supposed to support under stress.

It can be used with even three or four anterior teeth remaining and these can be banded together for maximum abutment strength and still have adequate stressbreaking action. Also it can be used as easily on the upper as the lower case. Each saddle has individual movement.

It can be adjusted for any amount of movement according to case requirements. The construction is simplified and it eliminates stresses and strains in cases having a saddle on one side fixed in function and the other a distal extension or a unilateral distal extension.

With a hinge type stressbreaker the saddle can take some of the vertical stop pressure in cases of extreme overjet and open bite. Where acrylic saddles are used, any repairs to metal skeleton may be made without damage to acrylic by simply disconnecting saddles through the stressbreaker.

Southern California State Dental Association Journal
Vol. XXVI — No. 12 — Dec. 1958

Conservative Treatment of the Floor of the Carious Cavity —Carious Dentine Near the Pulp

F. PRADER, D.M.D.

Leaving residual carious dentine dangerously near the pulp is described as indirect or natural capping of the pulp. It can be carried out successfully in young teeth without pulpitis. It consists in impregnating the carious residual dentine with calcium hydroxide and covering it with oil of cloves. The residual dentine dries and becomes hard. The number of micro-organisms decreases. A possible bacteraemia of the pulp, due to caries infection, does not lead to inflammation, unless there is additional infection from

external sources, e.g., bur or saliva.

Prognosis with existing pulpitis is uncertain because no clinical diagnosis can be made and because other channels of infection may be operative. Similarly, metamorphosis (regressive changes) of the pulp is a contra-indication. Thus the indication for indirect capping of the pulp is very limited. It should be considered mainly for young teeth with easily accessible cavities.

International Dental Journal
Vol. 8 — No. 4 — December 1958

"Abnormal" Behaviour Among Normal Children.

University of Buffalo School of Medicine.

"One of the great psychiatric dilemmas of our time is the decision as to what is normal and what is abnormal in human behaviour," Lapouse and Monk state. Investigating this problem by epidemiologic methods, the authors collected maternal reports of the behaviour characteristics of 482 children, 6 to 12 years old, with the sexes equally represented. Behaviour commonly categorized as pathologic was surprisingly frequent.

Seventeen per cent of the children had wet the bed within the last year; 28% had nightmares; 65% manifested tension phenomena; 36% had either abnormally low or abnormally high food intake; 27% were nailbiters; 49% were over-active; 30% were restless; 4% stuttered, and 12% had some kind of tic. Half of the girls

and 36% of the boys had 7 or more fears and worries.

Validating studies confirmed the close agreement between reports of the children and their mothers with regard to objective, clearly defined behaviour characteristics. Since poorly defined behaviour entities tended to be under-enumerated by mothers, some may be even more prevalent.

The authors plan future studies to clarify whether these characteristics truly indicate "psychiatric disorders or whether they occur as transient developmental phenomena in essentially normal children."

R. LAPOUSE AND M. A. MONK
Am.J.Pub.Health 48:1134 (Sept.) 1958.

Pin Reinforcement and Retention of Amalgam

Foundations and Restorations

MILES R. MARKLEY, D.D.S., DENVER

Teeth with mutilated crowns, but with solid roots, can be dependably salvaged for many years of useful service by silver amalgam, reinforced with threaded, stainless steel pins.

Present dental restorations have no adhesive power. The "hollow tooth" presents the problem of having only frail enamel walls to retain a filling. The entire crown frequently cracks off after being restored with a foundation material and shaped for coverage. Fracture teeth, and teeth with crowns weakened by endodontic treatment, also create problems for restoration.

Cement bases are grossly overdone in dental practice. Dental cements lack sufficient crushing and shear strength to serve as durable foundations under restorations. Failure to recognize this weakness is a common error among practicing dentists and in schools which teach students to remove the caries, fill the cavity with cement, then cut an ideal cavity in the cement. The resulting restoration is seated largely on cement having a crushing strength of only one fourth to one fifteenth that of amalgam and of dentine.

Many restored teeth fracture because cement bases allow movement of the restoration under stress. Stresses build up which tend to split the tooth holding the restoration. This is particularly true of inlays, built necessarily in the shape of a wedge to provide draft. Even if actual fracture does not occur, movement of re-

storations supported by compressible cement cause margins to open, allowing leakage and recurrent caries. Well-condensed amalgam as a foundation, has a compressive strength comparable to that of dentine and provides an ideal stress-resistant base. A zinc oxide-eugenol cement base has even less crushing strength than dental cement and so should never be used over more than a tiny region. If a zinc oxide-eugenol dressing is needed, it should be applied for a period of a few days to two weeks, then completely removed before restoration.

G. V. Black taught that restorations should be seated on sound dentine, prepared at right angles to functional stress. Obviously slight undercuts should be blocked out for cast restorations, and small areas close to the pulp may require insulation but the load of any restoration should be carried on tooth structure.

Not only are cement foundations too weak to bear functional stress but they are soluble. If they extend anywhere near the margins of cast restorations, or become exposed by subsequent occlusal wear, they are dissolved readily by percolating mouth fluids, creating a hazardous recurrent caries problem. The higher the coefficient of expansion of the restoration, the more percolation occurs. This explains the high incidence of recurrent caries under cast, cement restorations with their permeable dental cement seals.

Since amalgam is not soluble, amalgam foundations are safer against recurrent caries than cement bases. Furthermore, amalgam corrodes where leakage or percolation occur and the corrosion products apparently seal the leak. If the cavity is close enough to the pulp to cause thermal shock, an insulating spot of cement should be placed over the deep region, but kept small so that the foundation and restoration are seated principally on tooth structure. Wherever oxyphosphate of zinc cement is used in a region close to the pulp, the pulp first should be protected against cement shock with a calcium hydroxide-bearing varnish. Cement shock and the overheating of teeth during cavity preparation are the principal causes of sensitive restored teeth.

Crushing strength, insolubility, caries resistance, and its kindness to pulp tissue, make amalgam the ideal foundation material. But it is brittle. It lacks shear strength to support lateral strains. Reinforcement and retention of amalgam with threads, wrought metal pins change such potential failure into dependable success.

Rubber dam should be used routinely for any amalgam restoration or foundation. For broken down teeth, the technique will be comparable to that used in Class V restorations. Heavy rubber dam, preferably 0.012 inch thick, will seal against moisture where a thinner dam will not. This is so important that rubber dam purchases should be checked with a micrometer.

With roentgenograms and a knowledge of dental anatomy it is possible to dodge the pulp and to miss root bifurcations while drilling holes to receive from 1 to 8 threaded pins in each tooth. These holes should extend from 2 to 5 mm. into sound dentine. Pins preferably need not be parallel to support amalgam. Pins should be extended occlusally almost through the restoration or foundation to give it maximum strength.

Threaded stainless steel wire of 0.025 inch diameter can be procured in one foot lengths from dental supply sources at

about one fifth the cost of iridioplatinum wire. Stainless steel is harder and stronger than iridioplatinum and so provides better as well as less expensive reinforcement. Dental handpiece 0.027 inch diameter twist drills (0.7 mm. "Spirec Bohrers") for drilling the pin holes, and "Lentulo-spirals" for carrying oxyphosphate of zinc cement into the holes, simplify the technique. It is important that a coolant be used in the drilling procedure. The dentist can resharpen the twist drill. The spirals intended to carry cements and medicaments into root canals serve better for filling pin holes of this size if 4 mm. of the sharp point is snipped off.

The ends of the threaded wire are rounded with an abrasive disk to facilitate entry to the full depth of the pin holes, then are clipped to length with a machinist's wire cutter. A pin of the proper length is inserted into each hole, with removing and bending of the pins done with two pairs of pliers if necessary to keep the free ends within the contour of the restoration. Pins will not fall out of the holes in the upper teeth if the patient is positioned with his head back.

A retarded mix of crown and bridge cement is prepared on a cold slab. In turn, each pin is removed with grooved beak pliers and is handed to the assistant. While the assistant butters the point of the pin with cement and draws it through her fingers to remove the excess, the operator picks up a droplet of cement on the spiral handpiece and spins it into the pin hole. The pin still held in the pliers is returned to the operator for insertion to the depth of the hole. As many as eight pins can be placed with one mix of cement. Excess cement can be flipped off with an explorer point as it begins to set.

An anatomically correct, perfectly stable matrix is significant. A seamless copper band is annealed by heating red-hot and immersing in alcohol or water. It is then contoured with curved contouring pliers to restore tooth form and festooned to the gum attachment with curved scissors.

Contacting areas of the band are re-

duced to paper thinness with a coarse sandpaper disc and are then recontoured. The band is then tightened at the cervical by pinching a tuck at the gingival edge in an area accessible to flat nosed pliers. Triangular wedges cut from round hardwood toothpicks are then forced between the teeth against the matrix. The contour of the band is perfected further so that embrasures and contacts reproduce true anatomy, then the entire band is surrounded and stabilized with modeling compound. Anatomy is again checked and contact assured by using a warmed, bur-nishing instrument.

Amalgam is then condensed thoroughly with 0.5 and 1 mm. diameter round pluggers (Wesco-Mortenson No. 2) around the pins; a larger plugger is used only after the pins are covered. Condensing amalgam well around the pins requires painstaking effort, otherwise voids will occur. After condensation, and after the occlusal contour is partially carved, the compound is removed, and the matrix is slit in the region of the tuck. The matrix band is opened out, and can then be slipped occlusally enough to snip the edge with crown scissors over each contact spot. With pliers or hemostat forceps gripping the band at either side of this scissor cut,

the matrix can be torn through each thinned contact portion for removal without damage to the proximal region of the amalgam.

Reproduction of anatomy is unnecessary if a reinforced amalgam foundation is being built for a gold or porcelain restoration. Once a foundation is condensed, preparation for the restoration can be continued and completed at the same sitting.

A weak broken-down tooth or root, ringed with 4 to 8 pins and restored with amalgam, is strengthened and splinted against possible splitting. Thus it is far stronger than the familiar dowel and coping casting which actually tends to split the root. Ample strength and retention may be secured not only for single restorations such as a porcelain jacket, an inlay, or a crown, but also to support a bridge attachment on almost any solid tooth despite the fact that it has a broken-down crown.

This method has proved successful for salvaging solid broken-down teeth and roots which are commonly sacrificed as being hopeless, thus preserving function of natural teeth and tooth-borne restorations and appliances.

The Journal of the American Dental Ass'n.
Vol. 56 - May, 1958

C.D.A. SURVEY OF DENTAL PRACTICE

Questionnaires have been distributed to all C.D.A. members. Your cooperation in returning your completed questionnaire to the Canadian Dental Association as soon as possible will be appreciated.

EDITORIAL

The Rule is Tarnished

In spite of the rigors of a dental practice, we must never fail to show our fellow practitioners certain basic courtesies. The golden rule to which so much lip service is paid, demands equal consideration within the professional ranks as without.

No one ever enhances his own status at the expense of another. It is only reasonable for a dental practitioner to desire his patients' respect. It is even more significant that our patients respect our profession. This status is achieved and maintained through individual effort.

The referring and receiving of patients offers one of the best opportunities of exercising good will. Yet this is too often a weak point in our professional fabric. Discourtesy and thoughtlessness have dwelt so snugly in the routine behaviour of some dentists that they are no longer aware of their presence. Fortunately these attitudes are not flagrant, but when they occur, they are assuredly disturbing.

Patients are frequently in need of the services of a specialist. A general practitioner in no way demeans himself by advising a patient of this need. On the contrary, he may be enhancing his reputation by virtue of his willingness to acknowl-

edge certain limitations. The manner in which the patient is referred is the point of issue.

It is just plain bad manners to imply that the expert abilities of an oral surgeon are indicated for any reason other than his special abilities. At no time should reference be made to the suitability of his instruments or the availability of his time. Off hand mention of the ease with which a specialist will "flip-out" the offending tooth or treat a difficult situation, tend to minimize his abilities and are discourteous.

Occasionally a paedodontist receives a new patient from his confrere, bringing with him no distinguishing marks other than that he is small. It is not until the child enters the operating room that all fury breaks loose. Then the dentist discovers that in a previous bout the child had proved himself to be an intractable little brute. Perhaps some courteous advance warning of this child's tendencies would have assisted the paedodontist in coping with the situation more ideally. Here too any reference to gimmicks or equipment size should be avoided.

Periodontists have their problems. Again certain thoughtful preparation is

necessary. Patients sometimes arrive in a periodontist's office without any real knowledge of why they are there. It is not enough to refer a patient to a periodontist armed with a questionable full mouth survey and the thought that this man can, with a few deft strokes of his fine instruments, rescue a lost cause.

Orthodontists require special handling. Although they may not know why, parents at least have heard that "bands are expensive." It is unfair to the parent and to the orthodontist to refer a patient without some preparation. This does not suggest attempting to estimate another's fees. Certain severe malocclusions may require several years of treatment. General preparatory remarks concerning the complexity of the treatment are often a mutual kindness to the specialist and the parent.

This situation is two edged. Whenever a specialist receives a patient the general practitioner, usually the referring dentist,

is entitled to certain basic information. Primarily of course it is of interest to know whether the patient has contacted the specialist. Beyond this the dentist may reasonably expect to know the highlights of the diagnosis, a rough outline of the treatment plan, and the prognosis. A specialist should know and heed the specific wishes of his colleagues in this respect.

On the occasions when a specialist discovers some dental irregularity that the general practitioner has obviously overlooked, he must exercise delicate restraint, lest he unwittingly damage the reputation of another. These diplomatic emergencies must always be handled considerately.

Mutual courtesies bring mutual respect and patient appreciation. Genuine recognition of each other's services and the avoidance of all references that may tend to mitigate patient respect, can only strengthen our professional status.

CORRESPONDENCE

To the Editor

. . . . Dr. Nord says that some of his ideas may be controversial. That is to be expected for the whole orthodontic field bristles with controversy; but an established clinic handling such a large number of patients merits closer study in view of the need, and I am glad that our Journal has given us Dr. Nord's article.

W. W. Woodbury, D.D.S.,
Halifax, N.S.

To the Editor,

I humbly apologize for raising my voice, as I have been in this country for only four months. Your leading article 'Clinical Orthodontics', Vol. 25, No. 1, Jan. 1959, however, is so controversial that I cannot help myself.

Whatever the orthodontic problem in Canada is, there is a similar one in Great Britain, where a comprehensive Dental Health Service has increased the orthodontic demand tremendously.

I am in agreement with Dr. Nord that many more than fifty new patients a year can be seen, that removable appliances should be used for many cases, and that the general practitioner could take care of a great many cases himself, if he had a good grounding in orthodontic diagnosis, which is not as difficult as it is made out to be. I also agree that cephalograms are not necessary in most cases—provided a good approximation of cephalometric landmarks can be arrived at clinically, which means that one should have had training with cephalograms available before venturing to go without.

Apart from that, Dr. Nord's article is dangerous, since it is misleading to a high degree.

His aetiology is unscientific and only supported by beliefs which are being disproved, and have been for the last 25 years in the U. S. A. (Brodie, Thompson, Krogman, and many others) and in Great Britain (Ballard, Hovell, Rix, Walther) and many others in other countries.

He gives no indication what his results are except that they are short of perfection. My short stay in this country and in one university has convinced me that the standards demanded here in operative work, prosthetics, crown and bridge and periodontics are much higher than those usually demanded on the other side. I have no doubt that Dr. Nord's orthodontic successes would not be so considered here.

Not only is Dr. Nord's aetiology of doubtful value, his assertions are really fallacious. He mentions that statistics show that 0.4% of jaws are truly overdeveloped. Since he evidently does not take cephalograms, where does he get his measurements from and where is the reference to the statistics he quotes? This also refers to measurements in figures 1, 2, 3 and 4. He may be right but can he prove it?

His case is that children should be treated

- (1) during the deciduous dentition
 - (2) with removable appliances
 - (3) by serial extractions.
- (1) If they are treated before the permanent dentition is more or less complete—ten or eleven years—he has committed himself to treatment, not knowing what the position is likely to be at a later stage, or repeating treatment at a later stage if not successful at an earlier stage. The agony may be prolonged for several years. Other reasons take too long to explain here. Of course, incisor relation-

ships should be rectified at an early stage, if possible without trauma.

- (2) I have treated orthodontic cases with undergraduate training, and afterwards with post-graduate training. I have used Dr. Nord's oral screen—the simple kind—and the Monobloc, both activated and not. I have used all sorts of removable appliances. But to refer to fixed appliances as out-moded and of the past is something I would not have thought possible for an orthodontist of repute to say. His oral screen and the Monobloc often require far more skill if they are to work than a fixed appliance. In fact I usually try to use a removable appliance in the upper jaw and fixed in the lower to evade intercuspalation, whilst moving teeth in both jaws, but there is absolutely no doubt that a fixed appliance will often do what no removable one can and do it quicker and better.

- (3) Serial extractions are not for the general practitioner.

$\frac{4}{4} / \frac{4}{4}$ or $\frac{6}{6} / \frac{6}{6}$ in Class II

$\frac{4}{4} / \frac{4}{4}$ or $\frac{6}{6} / \frac{6}{6}$ in Class III

$\frac{4}{4} / \frac{4}{4}$ or $\frac{6}{6} / \frac{6}{6}$ in Class I

$\frac{4}{4} / \frac{4}{4}$ $\frac{6}{6} / \frac{6}{6}$

This is usually advocated in cases of dentoalveolar disproportion to avoid appliance treatment later, and having removed deciduous teeth previously.

Unfortunately this means early extraction of permanent teeth for good subsequent alignment to take place. So one commits oneself at about 8 years of age to extraction of permanent teeth without knowing whether other permanent teeth may not have to be removed later because of decay. Also the space lost is that much anchorage lost if it should happen that crowding still exists.

Referring to figures 7 and 8, lip exercises have not done a thing. This girl has acquired a habit of keeping her lips closed; they are no longer than they were before. She has discovered that she looks better that way, as many other people do. Alas! at 35 years or so they usually relax, and the lower lip fails to control the upper anterior teeth, which protrude, spread and fall prey to periodontal disease in many cases.

**F. Allen, B.D.S., L.D.S., D'Orth, R.C.S.,
Montreal, Que.**

BOOK REVIEWS

A Text Book of Orthodontia. Prepared by: Robert H. W. Strang, M.D., D.D.S., and Will M. Thompson, B.S., D.D.S.

Published by: Macmillan Co. of Canada Ltd.

Pages: 880 with 1,178 illustrations. Price \$20.00.

The fourth edition of this fine volume is one which will find a welcome place in the library of both the student and those well-skilled in the field of orthodontics. In this textbook, as in previous editions, the authors adhere to the principle of presenting but one specific way of attaining successful results in treatment, and substantiate this by including a carefully detailed technical description for each operative procedure for the benefit of the student of orthodontics.

The chapters which are devoted to theoretical presentations have been revised in the light of recent developments particularly in the field of cephalometrics to which an entire chapter is devoted. The co-author has presented the clinical application of cephalometrics in a concise and descriptive manner, outlining briefly several types of analysis which are in common use in office practice.

That portion of the text dealing with basic principles, physiology, etiology, histology, growth and development and case analysis provides, for the practicing orthodontist, a wealth of material for review which has been gleaned from carefully selected textbooks and papers of many eminent authorities. These contributions bring fresh life into each chapter molding the whole into a most worthy reference text.

As mentioned in the preface to this edition, the chapters devoted to Treatment of Malocclusion still follow fundamentally the principles and technical procedures advocated by Dr. Charles H. Tweed. The authors have avoided the incorporation of any recent technical or theoretical developments presently taught by Dr. Tweed—judging these to be too difficult for the student who has not

already established a sound basic foundation. Providing this foundation is the object and, I might add, the accomplishment of this comprehensive work.

This volume is alive with excellent illustrations lending support to the text and assisting the reader's appreciation of the subject matter.

G. C. Swann.

Oral Roentgenographic Diagnosis. Prepared by: Edward C. Stafne, D.D.S., F.A.C.D. Published by: W. B. Saunders Company. Pages: 303 with 1338 illustrations. Price: \$14.50.

This excellent text provides a comprehensive coverage of dental radiology and will appeal to anyone interested in X-ray interpretation whether he be student, dentist or general radiologist.

The material is presented in an orderly and systematic manner and covers anatomic landmarks, anomalies, pathologic classifications of the hard and soft tissues, infections, cysts, tumors and oral manifestations of systemic diseases. As might be expected from the wealth of source material at the author's disposal and from his previous contributions to the literature, the latter section is of particular value.

The complete and extensive bibliography with specific references to it throughout the text serves to enhance the value of the book to the reader.

The quality of the reproductions of the more than thirteen hundred roentgenograms is excellent and the variety of examples of various lesions complement the written portion of text handsomely. The author has set and achieved a very high standard and his contribution is a welcome addition to the literature.

D. W. Stoneman.

*Dentistry's Continuing Progress**

HON. M. B. DYMOND, M.D., M.P.P., TORONTO, ONTARIO,

MINISTER OF HEALTH, PROVINCE OF ONTARIO.

INTRODUCTION

I consider it a great honour and a distinct pleasure to have this opportunity of taking part with you on this happy occasion, in the official opening of the New Headquarters Building of the Royal College of Dental Surgeons of Ontario.

I would like to convey to you first the sincere good wishes of the Prime Minister and to extend to you his congratulations as well as those of my colleagues in the Cabinet on your great achievement.

HISTORY OF DENTISTRY IN ONTARIO

I have often thought I should like to know something about the beginning of your profession in this Province, but as I am sure many of you know some things are put off because of other pressures till a more propitious time. So this kind invitation of your Directors gave me an excellent opportunity to collect some new knowledge which I found most interesting. No doubt it is well known to all of you but a brief review may not be amiss. For instance I did not realize your profession had its roots so early in the history of Ontario, till I learned that in 1846, six Dentists were in active practice. Apparently the course of instruction has broadened greatly since those early days when a dentist required only a brief indentureship of three to twelve months to prepare himself for practice. One should

not be surprised to note that Kingston had a significant part in your field as in so many other matters connected with early Ontario and Canada, for it was one Dr. Barnabas Day of Kingston who laid the groundwork of the organization of Ontario Dentists. I gather he, with many of his colleagues, was concerned with professional standards and from their efforts came the Incorporation of your profession by Legislative action, the Bill being passed at the first session of the First Ontario Legislature. But of greater interest was the fact that the Ontario Dental Law was drafted without precedent and is recognized as the oldest, continuous dental act in the world. So early in your official, professional life you gave evidence of being pioneers, a quality you have not lost. Your Act dated 1868 charged you with many responsibilities. One you recognized early and that was the need for establishing a school of Dentistry, this came about in 1869, rather it was begun then and completed some six years later. One cannot leave a recounting of those early days without making mention of at least one of the great pioneers. I refer to Dr. J. B. Wilmott who served as Dean of the School from its inception till his death in 1915 and made some notable contributions to the profession,

*An address delivered on the occasion of the official opening of the new Headquarters Building of the Royal College of Dental Surgeons of Ontario on Saturday, January 23rd, 1959.



*The New Home of the Royal College of Dental Surgeons
of Ontario, 230 St. George St., Toronto.*

laying, at least in part, the strong foundation upon which Dentistry in Ontario has built a notable and enduring super-structure.

But great strides have been made by dentistry in the passing years. In the development of a program of Public Health your profession has been in the forefront, for the history of dentistry during the past century has been one of achievement and noteworthy contribution to the welfare and good health of the people of Ontario.

PROGRESS IN DENTISTRY

Much has been accomplished in your profession since the early days of 1846 and much is still to be achieved.

Dentistry as other professions is faced with many problems, problems which not only affect the progress of your profession but also affect the well-being and health of the people of Ontario.

One of the greatest problems and one which I know is of grave concern to you is the lack of dentists to provide the

necessary dental service to the ever expanding population of this province.

The story of Canada and Ontario like many countries since the end of World War II is a story of great growth and change and technical advance. Our cities are bigger, our buildings are taller, and our children are more numerous . . . (and harder to control). Dishpan hands have been cured by the automatic dishwasher and our cars are now so long that we cannot park them. Even Jello has added a couple of new delicious flavours . . . and perpetual motion has been discovered carrying a guitar. In short, we live in an exciting age. Today's discovery makes yesterday's miracle a commonplace . . . and who is to say what tomorrow will bring.

But what tomorrow will bring is a question we today would be wise to ask, and we should not ask it lightly as a tribute to our own inventiveness, but seriously, as a question basic to human welfare. More children require more schools. More cars require more highways. A new technology means a need for new technicians. Growth means change, and stimulating though it is, change can become chaos unless we are prepared for it. This is true in education. It is true in transportation and in industry. It is even more true in public health. For surely, preparation and planning in a field as vital to our welfare as health services cannot wait until tomorrow. It must begin today.

MEETING THE CHALLENGE

The lack of adequate teaching facilities and therefore an acute shortage of dentists, I know is your first and greatest problem. I also know that you are facing up to this problem which is apparent in the announcement last spring of the construction of a new University of Toronto Dental Building.

This new and modern dental teaching unit will fulfil the recommendations made in the report of the Ontario Survey Com-

mission (1950) which called for a minimum of 120 dentistry graduates each year in the province.

I was also interested to read the statement on projected enrolment by Dr. Roy G. Ellis, Dean of the Faculty of Dentistry in which he predicts that the graduating class of 1963 will number 125 and by 1966-67 the Faculty is expected to reach its maximum enrolment of 725 undergraduates, made up of 125 in the pre-professional and each of the four dental years, and 50 in both years of the dental hygiene course.

Training of the increased number of graduates should help to rectify the extreme shortage of dentists in Canada, which has one dentist to 2,932 residents, compared to one dentist to 1,671 in the United States, and one to 1,700 in Sweden. Graduating dentists in 1957 per million of population numbered 11 in Canada, 19 in the United States and 38 in Sweden.

I know that late last year, the Prime Minister of Ontario, the Honourable Leslie M. Frost, laid the cornerstone of this new building and at that time it was hoped that this new teaching unit should be ready for occupancy by late 1959 or early 1960. Let us hope that this new building will be completed this year for I am sure that with this added teaching facility, Canada will compare favourably with other countries of the world in providing the best dental service to her people.

This new building which we are officially opening today is also further evidence of how you here in Ontario are meeting the challenge and solving the need of increased dental care and services.

I understand from Dr. Dunn that this new building will provide the necessary accommodation for the Royal College of Dental Surgeons of Ontario and also provisions have been made for administrative facilities for the Ontario Dental Association and the Academy of Dentistry, Toronto. I know that through the expanded facilities provided by this new Head-

quarters Building, you of the dental profession will be in a position to extend your services on a larger scale throughout the province.

DENTAL WELFARE PLAN

One of the particular services provided by the Government of Ontario in co-operation with your organization and to be administered from this building is of particular interest to me, the Dental Welfare Plan. This plan, operated on contractual agreement between the Ontario Department of Welfare and the Royal College of Dental Services, is to be highly commended. This plan, already in operation is providing the necessary dental service to those persons who are social welfare recipients and unable to pay the required professional fees.

POST PAYMENT PLAN

Unfortunately it is one of the anomalies of our present-day society that those of us in the professional field are constantly burdened with administrative details which add to the pressures of the business world. I quite realize that with the current shortage of dental graduates it is all but impossible to tend to your growing number of patients and handle routine office details as well. The new Post Payment Plan is a business-like approach to one of the problems of administration, and I believe it is evidence that Private Enterprise is not solely interested in selfish gain but is cognizant of the needs of the people and willing to go a long way toward lightening burdens wherever this is possible.

The DSPI offices, I understand, are situated in this new headquarters building, handy to yourselves and to your patients.

I would like to quote from a statement by Dr. Wesley J. Dunn, Registrar-Secretary of the Royal College of Dental Surgeons of Ontario. This statement which appears in a booklet explaining the Plan

says: "One of the most significant developments in the history of dentistry in Ontario will be activated on January 1, 1959. The Board of Directors of the Royal College of Dental Surgeons of Ontario urges each dentist to share in the development and utilization of the Post Payment Plan for Dental Services. This program will enable the profession to extend its service more broadly, will permit the profession to continue to administer its own affairs, and will provide a greater degree of security for the dentist who participates.

"The Plan has been developed and approved by your profession as a measure of great public health significance. It requires the active participation of all dentists, however, to make it effective."

PUBLIC HEALTH COMPLEX

We all know that public health service is an extremely complex thing. It has always been, and gets more so as services and knowledge expand. Public health service has been described as the science and art of preventing disease, prolonging life, and promoting physical health and efficiency through organized community efforts for the sanitation of the environment, the control of community infections and the education of the individual in the principles of personal hygiene.

Yes, it is all that . . . and more, too. Public health work is more than physical labour and distribution of funds. Public health workers require a wealth of human understanding . . . an understanding of their own abilities and their own shortcomings, and an understanding of the public mind where health matters are concerned . . . an understanding of the hopes and fears of those who look to them for guidance and help. Workers in the public health field should endeavour to the best of their abilities and all the resources at their command to maintain such human understanding.

ONLY ONE STANDARD OF SERVICE . . .
THE BEST

It has always been the opinion of the Ontario Department of Health that hospitals exist for only one purpose . . . to serve the public . . . and that there is only one standard of hospital service acceptable . . . the best.

I think the same words can and should be applied in general to the entire field of public health. All of us who have anything to do with the medical sciences or public health, or both, are public servants in the true sense. We should strive to serve in the best way we know how, and in a manner which will be most beneficial to the health of the people who look to us for guidance and help.

I can safely say that, despite their trials and tribulations, the workers in the public health field have met their problems in recent years with a magnificent display of hard work and courage. I have a great deal of respect and admiration for the men and women behind our public health programs, particularly their work of recent years when the going sometimes seemed tough; for their devotion to a cause which has only one aim . . . the promotion of health and the care of the sick by all possible means. These public spirited volunteer workers as well as the paid personnel have been untiring in their efforts.

CONCLUSION

Although we have come a long way in improving the standards and services in the entire health field, we should never

become complacent or fail to realize that we still have a long way to go. We are all interested in the health and welfare of our fellow citizens and only through continued co-operation and assistance can we maintain our high health standards and see that our services fulfil their highest function in our communities.

Many people are responsible for the "coming into being" of this, your New Headquarters Building. Spear-heading the entire project, of course were the Members of the Board of your College, those statesmen of your profession who willingly give up many hours of their time and many talents in the interests of the whole profession, often-times working quietly behind the scenes, organizing and planning the many details consequent upon a project of this size. I would ask that every one of you think of these your colleagues and at the first opportunity speak a word of thanks. Every profession needs these devoted members; every profession has them; alas, however, they are not always known and too often are not fully appreciated. Now your dream is a reality; the things you have thought of and have hoped for, you now see before you. I urge you to make the best possible use of them, in the highest traditions of your proud and honourable profession.

Again let me congratulate you, and wish you well in your new Building, and thank you most sincerely for so kindly including me in your plans on this most happy occasion.

Now it is my pleasure to declare this building duly and officially opened for the purpose for which it was established.

Atomic Energy and Leisure — As manpower is replaced by other sources of energy, especially atomic energy, the entire conception of recreation shifts. What mankind will do with these new leisure hours will determine the value of our culture. *Morris L. Ernst.*

CONVENTION SUPPLEMENT

Joint Meeting

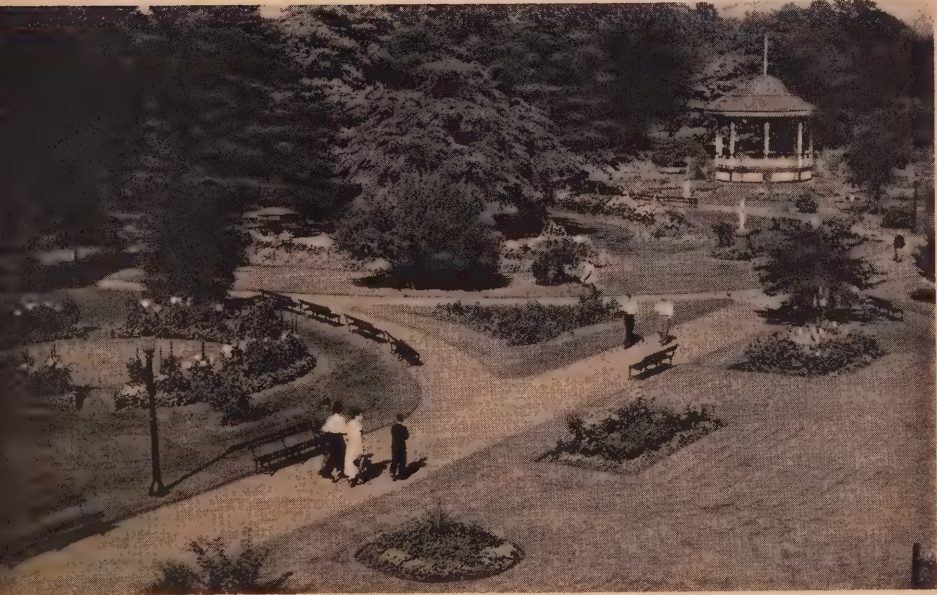
THE CANADIAN DENTAL ASSOCIATION

And

THE NOVA SCOTIA DENTAL ASSOCIATION

June 21 - 24, 1959

Nova Scotian Hotel, Halifax, Nova Scotia



HALIFAX PUBLIC GARDENS



On behalf of the Canadian Dental Association, I want to extend a very sincere invitation to the dentists of Canada and their wives to attend the Joint meeting of the Canadian Dental Association and the Nova Scotia Dental Association which is being held in historic Halifax, June 21st-24th.

At this time of the year many of us are thinking about holidays and I suggest that this will provide an excellent opportunity to combine a holiday and convention.

Committees have been working hard for many months to provide you with a first-class scientific program as well as entertainment which we know you will enjoy.

We will be looking forward to seeing you and will endeavor to make your visit with us a most pleasant one.

J. M. Lewis

President Canadian Dental Association

On behalf of the Nova Scotia Dental Association I welcome this opportunity of extending to you an invitation to attend the C.D.A. Convention in Halifax this June. We are proud to be host to this convention and are making every effort to ensure that your visit with us will be a pleasant one. We hope you will budget a few extra days to enable you to see more of Nova Scotia and its people. A visit to some of our well known beauty spots and historic sites can be very rewarding. It will be a pleasure to have you with us.

A. H. Egan

President Nova Scotia Dental Association



The 1959 Convention Committee extends a most cordial invitation to you to attend the C.D.A.-N.S.D.A. Convention in Halifax, June 21-24, 1959, inclusive.

The excellence of the programme, which is being prepared by our enthusiastic committee, will be evident on perusal of the tentative schedule in this supplement.

To those who have not been privileged to visit this historic city, and to those who were here in the less fortunate time of war, I suggest that you will find it most rewarding to come and to take time to see something of the diverse and unique beauty of the City and Province.

The warm hospitality which you will be shown by your professional confreres will be accorded in equal measure by those you meet as you travel throughout the Province.

J. R. McLean

Convention Chairman.



FACULTY OF DENTISTRY, DALHOUSIE UNIVERSITY

PROGRAM

Sunday, June 21, 1959

9:30-4:30 Registration — Nova Scotian Hotel

Evening Musicale — Nova Scotian Hotel

Monday, June 22, 1959

8:30 Registration, Registration Desk.

9:30 "*Simplified Clasp Partial Dentures Designed for Maximum Function.*"
Dr. Victor Steffel, Ohio State University.

11:00 *Oral Surgery Lecture*, Dr. James P. Coupland. Presented by Canadian
Society of Oral Surgeons.

12:30: C.D.A. Luncheon — Including the ladies.

2:30 *The Grieve Memorial Lecture* — Dr. Paul Geoffrion.

3:30-4:30 *Partial Dentures* — Dr. Victor Steffel.

Evening Shore Party.

ART EXHIBIT: Monday, Tuesday, Wednesday—9:30-4:30

COMMERCIAL EXHIBITS: Monday, Tuesday — 9:30 - 4:30
Wednesday — 9:30 - 12:30

SCIENTIFIC EXHIBITS: Monday, Tuesday, Wednesday — 9:30 - 4:30

IN BRIEF

Tuesday, June 23, 1959

8.30 a.m. Registration—Registration desk.

9:30 "*Emergency Endodontic Treatment for Children*," Dr. G. C. Hare, University of Toronto.

11.00 "*A Discussion of some common kinds of Stomatitis*," Dr. H. D. Millard, University of Michigan.

12:30 N.S.D.A. Luncheon—Panel Discussion "*Dentistry during the next ten years*." Moderator — Dr. Don W. Gullett.

3:00 Dr. J. Gordon Kaplan — "*One Hundred Years of Darwinism*."

Evening Class Reunions.

Wednesday, June 24, 1959

8:30 a.m. Registration — Registration Desk.

9.30 "*Stomatitis*" — Dr. H. D. Millard.

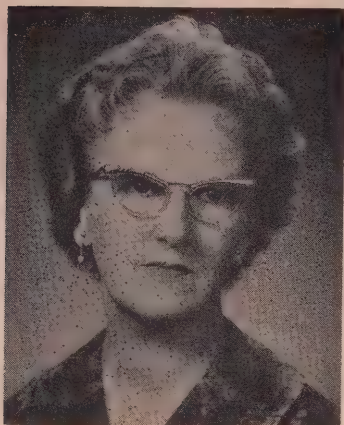
11:00 "*Endodontic Treatment for Children*, Dr. G. C. Hare.

12:30 Mixed Luncheon.

2:30 - 4:30 Table Clinics.

Evening President's Dinner and Dance.

LADIES' PROGRAMME



MRS. G. M. DEWIS
Honorary President



MRS. R. H. BINGHAM
Chairman Ladies' Committee

To the Ladies:

Taste the Atlantic brine in '59! Not all of us have seen Canada from coast to coast—so this is the year to start in the East. We do hope you are planning to come to the Convention in June, and many things have been lined up by the ladies' committee to make your participation in this Convention an enjoyable and a memorable one. Be sure to get your reservations in early.

On behalf of the dentists' wives of Nova Scotia, I am pleased to extend this invitation to you to enjoy yourselves in Halifax from June 21 to June 24 inclusive.

Grace Bingham

SUNDAY—21 June 1959

Registration.
Evening musicale and refreshments.

MONDAY—22 June 1959

Registration.
(Coffee served from 9.30-10.30 a.m.)
C.D.A. Luncheon with your husband.
Evening shore party.

TUESDAY—23 June 1959

Cruise of Harbour.
Tea at Sherriff Hall.

WEDNESDAY—24 June 1959

Sight-seeing; coffee on Citadel Hill.
Mixed Luncheon.
President's Dinner and Dance.



HALIFAX CLOCK TOWER

SPECIAL ACTIVITIES

ROYAL CANADIAN DENTAL CORPS ASSOCIATION:

An informal cocktail hour will be held at the Officers' Mess, this should give all former and present officers of the Corps and dentists who are Veterans of other services, an opportunity to renew old acquaintances. The ladies are cordially invited.

Barrington Street Officers' Mess, Barrington Street, Halifax, N.S.

Thursday, 25th June '59, 7.30 p.m.

Tickets may be obtained at Registration Desk.

ART EXHIBIT:

Many originals by the famous Dentist Artist — Dr. Solot of Paris, France — are being brought to Canada for our 1959 Convention.

These paintings are unique, and are being sought by Dental groups the world over.

COMMERCIAL EXHIBITS:

A large exhibit containing all the latest in equipment and supplies, has been arranged.

Exhibits open Monday and Tuesday — 9.00 a.m.-7.00 p.m.

Wednesday — 9.00 a.m.-12.00 noon

GOLF:

There will be a special three-day golf tournament for two trophies. Play will take place at participants' own convenience on either the Brightwood Golf Club at Dartmouth or at Ashburn Golf and Country Club in Halifax. Inquire at the Registration Desk.

OTHER DIVERSIONS:

Visitors interested in tennis, swimming, yachting, deep sea fishing or stream and lake fishing may inquire at the Information Desk for direction.



SANDRA HUMPHREY

Canadian Dental Nurses' and Assistants' Association

12th ANNUAL CONVENTION

joint meeting with

The Nova Scotia Dental Nurses' and Assistants' Association

JUNE 21 - 24, 1959

On behalf of the Nova Scotia Dental Nurses' and Assistants' Association, it gives me great pleasure to extend to every member an invitation to attend our convention, which will take place in Halifax, at the Lord Nelson Hotel, June 21st to 24th. If all of the members across Canada could come, how wonderful that would be, but since that is not possible, we do hope that each province will be well represented.

The Nova Scotia Dental Nurses and Assistants have worked unstintingly these past months and have planned an excellent programme, and it is our hope that the entertainment will give everyone at least a glimpse of picturesque and historical Nova Scotia.

Do try to come to Nova Scotia. This is your National Convention and only through country wide representation can it be a success.

A handwritten signature in cursive script, reading "Sandra Humphrey".

President Nova Scotia Dental Nurses'
and Assistants' Association



LORD NELSON HOTEL, HALIFAX

PROGRAMME

June 21

- 2.30 Registration.
- 4.30 Official Suite—Afternoon Tea.
- 5.30 Executive Meeting.
- 9.00 Musicale.

June 22

- 10.00 Official Opening.
President's Welcome.
Greetings from C.D.A. President and N.S.D.A. President.
- 12.30 Table Clinics.
C.D.A. Mixed Luncheon—Nova Scotian Hotel.
- 3.00 Speaker—Dr. W. G. MacIntosh.
- 4.00 Cruise of Halifax Harbour.

June 23

- 9.30 Speaker—D. M. Tanner.
- 10.30 City Tour.
- 12.30 Luncheon—Citadel Tea Room.
- 2.30 Speaker.
- 3.30 Speaker.
- 4.30 Exhibits—Nova Scotian Hotel.
- 7.00 Banquet—Lord Nelson Hotel.

June 24

- 9.30 Speaker—Dr. Wm. Coleman.
- 10.45 Annual Meeting.
Installation of Officers.
- 12.30 Free Period.
- 9.00 President's Dance.



THE NOVA SCOTIAN HOTEL

REDUCED RAILWAY FARES AVAILABLE

Authorization has been granted by the Canadian Passenger Association for reduced railways fares on the Identification Certificate Plan for the Halifax meeting.

Authorized dates for the start of the trip to Halifax are as follows:

From stations on Western lines—all points west of Fort William and Armstrong, Ontario: June 11 to 20 inclusive, 1959.

From stations on Eastern lines—Fort William and Armstrong, Ontario, and all points east thereof except Newfoundland: June 13 to 20 inclusive, 1959.

From Stations in Newfoundland—June 11 to 20 inclusive, 1959.

C.D.A. members and their dependent families, on presentation of Identification Certificates (one per family) are entitled to purchase reduced fare round-trip tickets to Halifax on the authorized dates. This reduced fare plan is also open to members of the Canadian Dental Nurses' and Assistants' Association.

Identification certificates may be obtained from the Secretary, Canadian Dental Association, 234 St. George St., Toronto 5.

National Convention of the Canadian Dental Association

Dr. Carl E. Dexter,
Registration Chairman,
5 Dutch Village Road,
Halifax, N.S.

REGISTRATION FORM

HALIFAX, N.S.
June 21, 22, 23, 24, 1959

NAME

ADDRESS

CITY PROVINCE

NAME (Wife)

Children (1) Age

(2) Age

(3) Age

Golfing, swimming, boating and such seasonable sports will be available.

REGISTRATION FEE:

Single	\$35.00
Wife	5.00
TOTAL	\$40.00

Covers all luncheons, receptions, President's dinner and dance.

Payable at par to—C.D.A. 1959 Convention Committee.

Enclose—Cheque M.O.

RESERVATION FORM

(To be completed and returned with the above form.)

Dr. W. B. Coleman,
Housing Chairman,
13 Rosemount Ave.,
Armdale, N.S.

Travelling by Car.....
Train
Air
Bus

Please reserve the following accommodations.

(Complete all three and signify in order of preference by marking (A), (B), (C))

Hotel Room Twin Beds..... Double Beds..... \$6.00 - \$16.00

Motel Unit Twin Beds..... Double Beds..... 7.00 - 12.00 European Plan

Tourist Home 6.00 - 9.00

In view of the large attendance expected, the hotels have few, if any, single rooms available. It might be to your advantage to share a room with another member. Please mention below the name of the person with whom you would like to share your accommodation; otherwise assignment will be made by the Housing Committee.

Name of person sharing accommodation:

Names &

Addresses &

Arriving Halifax on At..... A.M.
P.M.

Departing Halifax on At..... A.M.
P.M.

Reservations will be made in order of their arrival. Advanced and early registration will be very much appreciated by your committee and will be most advantageous to the registrant.

THE ASSOCIATION

Federal Income Tax Returns by Members of the Dental Profession

C.D.A. Offers Income Tax Guidance

For guidance to the dental profession and to bring about a greater uniformity in the data to be furnished to the Taxation Division of the Department of National Revenue in the annual Income Tax Returns to be filed, the following matters are set out.

INCOME

1. There should be maintained by every member of the dental profession an accurate record of income received, both as fees from his profession and by way of investment income. The record should be clear and capable of being readily checked against the return filed. Records should be maintained in books kept for the purpose which should be retained until written permission for their disposal is obtained from the Minister of National Revenue.

EXPENSES

2. Under the heading of expenses the following accounts should be maintained and records kept available for checking purposes in support of charges made:

- (a) Dental and like supplies.
- (b) Office help, nurse, bookkeeper, laundry and malpractice insurance premiums. Amounts of salaries and wages paid should be reported on Form T4, obtainable from your District Income Tax Office. (The Income Tax Act does not allow as a deduction a salary paid by a husband to a wife or vice versa. Such amount, if paid, is to be added back to income.)
- (c) Telephone expenses incurred in connection with professional practice.
- (d) Assistant's fees:

The names and addresses of the assistants to whom fees are paid, and amounts paid, should be furnished on or before the last day of February in each year on Form T4 (Do not confuse with individual return of income, Form T.1, to be filed on or before 30th April in each year.)

- (e) Rentals paid:

The name and address of the owner (preferably) or agent of the rented premises should be furnished. (see (g))

- (f) Postage and stationery.

- (g) Proportional expenses of dentists practising from their residences:

- (a) Owned by the dentist:

Where a dentist practises from a house he owns and as well resides in, a proportionate allowance of house expenses will be given for the laboratory, office and waiting room space, on the basis that this space bears to the total space of the residence. The charges cover taxes, light, heat, insurance, repairs, and interest in mortgage. (Name and address of mortgagee to be stated.) Note: For depreciation see item 2 (1).

- (b) Rented by the dentist:

The rent will be apportioned and heat and light if paid by the dentist; the owner of the premises takes care of all other expenses mentioned in (a) above.

- (h) Sundry expenses (not otherwise classified):

The expenses charged to this account should be capable of analysis and supported by records.

Claims for charitable donations will be allowed up to 10 per cent of net income from all sources upon submission of receipts to your District Income Tax Office. Charitable donations made through professional practice should be excluded from professional expenses and claimed as a deduction from income generally, along with any donations made otherwise.

The annual dues paid to governing bodies under which authority to practice is issued and membership association fees, to be recorded on the return, will be admitted as a charge.

The cost of attending post-graduate courses will not be allowed.

- (i) Interest paid on borrowed money may be charged against professional income if the borrowing was for professional purposes. If the money was borrowed to acquire investments, the interest is chargeable against the investment income. If the loan was for personal purposes no deduction from

income will be allowed for the interest paid thereon.

(j) Business tax will be allowed as an expense but income taxes will not be allowed.

(k) Automobile expenses:

Taxi fares and automobile expenses incurred in earning the income from the dental practice will be allowed when the dentist must visit the patients at their homes. The cost of transportation between the dentist's home and his office, however, is not an allowable deduction from income.

(l) Capital Cost Allowance (Depreciation):

A description of the treatment of capital cost allowance may be found on page four of the Income Tax Return form T1. General under the Part XI Method and in the T1 General Information Sheet.

The method of computing capital cost allowance for tax purposes is the same as that used last year and you should have no difficulty if you have a copy of last year's return available.

Simply carry forward the balance remaining in each class after deducting last year's allowance. Add to this figure the cost of any new equipment purchased and deduct the proceeds from any disposal of property in each class. The rate you wish to use not exceeding the maximum rate (see below) is applied to this new balance for each class to obtain the capital cost allowance you may claim this year.

The schedule on page four of the Income Tax Return is reproduced:

SCHEDULE

(1) Class Number	(2) Undepre- ciated Capital Cost at Begin- ning of 1958 (Col. 8 of 1957 return)	(3) Cost of Additions During 1958	(4) Proceeds From Disposals During 1958
(5) Undepre- ciated Capital Cost Before 1958 Al- lowance (Col. 2 plus 3, less 4)	(6) Rate %	(7) Capital Cost Allow- ance For 1958	(8) Undepre- ciated Capital Cost at End of 1958 (Col. 5 less Col. 7)

The maximum rates for the classes of equipment most used by dentists follow:—

ASSETS	CLASS	MAXIMUM RATE
Dental Equipment including instruments each costing \$50.00 or more	8	20%
Instruments costing less than \$50.00	12	100%
Office Furniture & Fixtures	8	20%
Frame Building (office or residence used both as dwelling and office)	6	10%
Brick Building (office or residence used both as dwelling and office)	3	5%

Instruments costing less than \$50.00 each belong in class 12 and have a maximum allowance rate of 100%. They should not be included in expenses but should be recorded as additions in column 3 of the schedule.

Where a dentist practises from a house which he owns and resides in, the allowance may be claimed as above on a portion of the cost of the residence, excluding land. For example if the residence were a brick building costing \$12,000.00 and one-third of the space were used for the office the dentist would use \$4,000.00 as the business portion of the cost and apply the building rate of 5% to determine the maximum depreciation allowable in the first year.

For further information on the subject you may refer to the Regulations or you may consult your District Income Tax Office.

CONVENTION EXPENSES

Convention expenses are allowable to an individual practising a profession, but the allowance is restricted to the expense of attending no more than two conventions in a taxation year. The taxpayer's attendance at the convention must have been for professional reasons. There are no geographical restrictions and the convention, therefore, need not necessarily have been held in Canada. The expenses to be allowed must be reasonable and the taxpayer should show:

1. The dates on or between which the convention was held, and the location thereof.
2. The number of days he was present at the convention, supported by a certificate of attendance from the sponsoring organization; and
3. The expenses incurred, segregating
 - (a) Transportation expenses
 - (b) Meals, and
 - (c) Hotel expenses, for which at least vouchers should be obtained and kept available for inspection.

All expenses of a personal nature including those attributable to the fact that the taxpayer's wife (or husband) accompanied

him to the convention, must be excluded from the foregoing.

No expenses for attending a convention are allowable as a deduction from salary income, since such a deduction is prohibited by Section 5 of the Act.

REGISTERED RETIREMENT SAVINGS PLANS

The amount that is deductible in respect of contributions to a retirement savings plan is limited:

- (a) In the case of an employee receiving a salary who is covered by an employer-employee pension plan to the lesser of \$1,500 or 10% of his earned income; and
- (b) in other cases to the lesser of \$2,500 or 10% of his earned income. "Earned income" usually consists of income received as salary (before any pension deductions) or income from carrying on a business or profession, plus net rental income.

The amounts deductible are those paid in 1958 and within 60 days after the end of the year. A payment made in January or February 1958 cannot be claimed in 1958 if it could have been deducted in 1957.

Individuals enquiring whether a proposed or existing plan is acceptable should usually obtain that information from the corporation offering the plan as it will normally be the corporation's responsibility to explain the plan and get it registered.

Dentists who have applied for membership in the Canadian Dental Association Retirement Savings Plan prior to December 31, 1958, may be assured that their names are registered as participants in a registered retirement savings plan and that their contributions are deductible for the taxation year 1958. The closing date for contributions applicable to 1958 is February 15, 1959.

A personal statement of account and a receipt showing the amount of contributions will be mailed in March 1959 to each participant to support claims made for deductions in 1958 income tax returns.

Applications for membership in CDARSP received during the current year will entitle participants to tax deferment for 1959.

PAYMENT OF TAX

3. Payment of Tax. Individuals whose income is more than 25% derived from sources other than salary or wages are required to pay the tax for each year by quarterly instalments during such year on the following dates, 31st March, 30th June, 30th September and 31st December.

DENTISTS UNDER SALARY CONTRACT

4. The Income Tax Act provides for the deduction of certain expenses from salary income.

The allowable expenses include travelling expenses, annual professional membership dues, office rent, salary to an assistant or substitute and supplies consumed directly in the performance of the duties of employment.

Certain conditions are attached to the allowances of the expenses and without trying to recite the exact provisions of the law the main points are:

- (a) That the expenses must have been incurred in the performance of the duties of the office or employment.
- (b) That the employee is required under the contract of employment to pay the expenses.
- (c) To claim travelling expenses the employee must be ordinarily required to carry on the duties of his employment away from his employer's place of business. Travelling between the dentist's home and his office is not included.

INCOME FROM A PARTNERSHIP

5. Additional expenses incurred by a partner, but not charged to the partnership may be claimed as a deduction from the partner's share of income. However, the partner must be in a position to substantiate these expenses, to show why they were not charged to the partnership and that they were necessarily laid out to earn the partnership income.

Survey of Dental Practice

Factual data concerning Canadian dentistry is becoming more and more in demand. One of the functions of the Canadian Dental Association is to gather information and be in a position to provide accurate data about many phases of dentistry, and one of the most important of these is dental economics.

Authorities have referred many times to the results of the last economic survey of Canadian dentistry, which concerned 1953. On or about February 15th, questionnaires were mailed to all C.D.A. members, asking for information about dental practice in 1958. Information tabulated from the returns will provide the basic facts for many of the future activities of the Association.

A.D.A. Centennial—1959

Early opening of the Housing Bureau for the special Centennial Sessions of the American Dental Association has been announced. The Housing Bureau has already opened to assure adequate accommodation for what is expected to be one of the largest dental gatherings ever held. Delegates from about fifty nations will attend sessions of the Federation Dentaire Internationale which will be held at the same time—September 14th to 18th, 1959.

Application for housing accommodation appears on page 35 of the January issue of the Journal of the Canadian Dental Association. Applications should be sent to the A.D.A. Housing Bureau, P.O. Box 5440, Chicago 7, Illinois.

Journal Shortage

Our library is almost out of copies of the May 1958 issue of the Journal of the Canadian Dental Association. Receipt of unwanted copies of this issue from members would be appreciated.

Lectureships Established

An annual lecture in each dental school in Canada and United States has been established by the American College of Dentists. The lectures this year, completed during the fall term, were on the general subject of Human Relations. The lectures next year will be upon a different subject to be selected.

Two Canadian dentists participated in this lecture program. Dr. Harry Thomson, Hon-

orary Member of Canadian Dental Association delivered the lecture at the dental schools situated at Indianapolis, Chicago (3), Minneapolis, Milwaukee and Winnipeg. Dr. P. G. Anderson, Past president of the Canadian Dental Association gave the lecture at the schools located at Boston (2), New York (2) and the two new schools in New Jersey. Reports received enthusiastic reception by the Deans for this activity.

Pan-American Congress at Mexico City

The Mexican Dental Association was host to a Pan-American Dental Congress held in Mexico City Nov. 18 to 23 last. Representatives of the dental profession from the countries of both South and North Americas were present. Dr. H. W. Hart, Faculty of Dentistry, University of Manitoba represented the Canadian Dental Association at the Congress.

As an outcome of the Congress two new organizations were established. National associations of the countries of the Americas will be invited to become members of the Pan American Odontological Confederation. The Pan-American Association of Dental Schools will seek co-operation of all dental schools in a similar manner.

Dr. Roberto M. Ruff of Mexico City was elected president of the confederation and Dean A. Raymond Baralt, of San Juan, Puerto Rico heads the schools association. The preliminary organization of these new groups will culminate during the A.D.A. Centennial Meetings in New York, September 1959.

Taxation Statistics

Average income of Canadian dentists who filed income tax returns for 1956 is \$9,230, up from \$8,554 the previous year. The total amount of income tax paid by dentists represents 0.28% of the total tax paid by all taxpayers. Dentists paid an average tax of \$1,452 for 1956.

This information is reported in the latest issue of "Taxation Statistics," annual publication of the Department of Internal Revenue.

News reports usually concentrate on information contained in the table entitled "Canadian Taxpayers by Occupation", arranged in order of average income. Part of this table appears below, with 1955 figures bracketed.

Ontario dentists paid 49.8% of the total tax paid by all Canadian dentists. About 42% of the dentists in Canada practise in Ontario. 24.7% of dentists are reported as having incomes between \$10,000 and \$15,000; 11.2% had higher incomes, and 64.1% of the dentists reportedly earned less than \$10,000 in 1956.

	Number	Av. Income (1955)	Av. Tax (1955)
Consulting Engineers & Architects	2,097	\$13,640 (14,007)	\$3,312 (3,484)
Medical Doctors & Surgeons	11,868	13,053 (12,166)	2,729 (2,558)
Lawyers & Notaries	6,142	12,617 (12,243)	2,905 (2,800)
Accountants	3,071	9,940 (9,315)	1,881 (1,741)
Dentists	4,296	9,230 (8,554)	1,452 (1,356)
Investors	79,846	6,021 (6,224)	882 (992)
All taxpayers	3,908,176	3,673 (3,535)	

THE CORPS



A group of United Nations Emergency Force officers shown with King Hussein of Jordan. Captain J. J. N. Wright, an RCDC officer serving with UNEF in the Middle East is second from the right. This photograph was taken in a tent behind the King's palace in Amman, Jordan.

Captain J. V. Niiranen Lectures

Captain J. V. Niiranen, U. S. Navy Dental Corps from the U. S. Naval Dental School at Bethesda, Maryland, was guest lecturer in Mass Casualty Treatment at the RCDC School, Camp Borden on January 26-27th. Captain Niiranen's interesting lectures are supplemented by a very ingenious manikin on which wounds and injuries can be realistically simulated.

Captain J. P. R. Guay Promoted

Army Headquarters has announced the promotion of Captain J. P. R. Guay of Lauzon, Que. to the rank of Major, effective November 17, 1958.

Major Guay was born in Lauzon on Sep-

tember 26, 1926 and received his early education there. He was granted a B.A. degree from College Levis, Levis, Que. in 1947 and earned his D.D.S. degree at the University of Montreal in 1951. He enrolled in the RCDC in June, 1951 with the rank of Captain and was posted to Quebec Command. In October of the same year he was posted to Prairie Command where he remained until his release in June 1954. In September 1954 Major Guay rejoined the RCDC and served in Eastern Command until February 1956 when he proceeded to Germany for service with No. 1 Field Dental Unit. He returned to Canada in July of 1958 and was posted to his present appointment as Dental Officer in Quebec City. Major Guay is married with two children.

Major H. R. Brown Retires

The retirement from the RCDC of Major H. R. Brown has been announced by Army Headquarters. Major Brown is a native of Montreal, Que. He attended McGill University and received his D.D.S. in 1926. After graduation he practised in Montreal until joining the CDC in September 1940. He served overseas for three years in the United Kingdom and Northwest Europe and was released in December 1945. Major Brown re-enrolled in the Corps in November 1948 with the rank of Captain and was posted to Eastern Command. Since that time he has served five years in Prairie Command, returning to Eastern Command in July 1958 where he was employed at Halifax. Major Brown is married. He is now employed by the RCDC as a civilian practitioner in Halifax.

Lt.-Col. A. T. Roger Visits Medical School

Lt.-Col. A. T. Roger, RCDC School, Camp Borden, visited the Medical Field Service School, Brooke Army Medical Centre, Fort Sam Houston, Texas, February 8-18 in his capacity as Canadian Liaison Officer. During

his visit Lt.-Col. Roger attended a course in Management of Mass Casualties.

Major P. S. Sills Attends Course

Major P. S. Sills, RCAF Station Uplands, Ontario, is attending a course in Prosthetics at the U. S. Naval Dental School, Bethesda, Maryland.

Captain J. R. Cowan Completes Tour of Duty

Captain J. R. Cowan of Fredericton, N.B. has been released from the Corps on completion of his tour of duty.

Dr. Alex Mintz Promoted

Dr. Alex Mintz of Regina, was recently promoted to the rank of Lieutenant Colonel, commanding officer of the 58 company of the Royal Canadian Dental Corps (Militia).

Lt.-Col. Mintz served in the Canadian Dental Corps from 1940-45. He spent four years of service in England and with the 22nd Field Ambulance of the 3rd Canadian Division in France and Germany.

This year he was awarded the Canadian Efficiency Decoration.

THE LIBRARY

ADDITIONS

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THE PROVINCES

ALBERTA

Lethbridge

The Lethbridge and District Dental Society held two Meetings in January. The first was on Jan. 8th at the Municipal Hospital where Dr. Lloyd of Edmonton explained the Post Payment Dental Plan. This plan which has been authorized by the Alberta Dental Association will be administered by D.S.P.I.—Dental Service Plans Incorporated. It was well received by the local Society.

On January 23rd the Society met to hear Dr. Carl O. Boucher present his Clinic on prosthetics. Dr. Boucher is from the Faculty of Ohio State University, Columbus, Ohio. He presented a most thorough and interesting description of the various aspects of denture construction.

Out of town dentists present were, Dr. Gray, Blairmore; Dr. Bryant, Pincher Creek; Dr. Falconer of Fort Macleod; Dr. Gray and Dr. Morrison from Medicine Hat.

D.A.R.

ONTARIO

R.C.D.S. Headquarters Opened

Hon. M. B. Dymond, Minister of Health for the Province of Ontario, in the traditional ribbon-cutting ceremony, declared the new Royal College of Dental Surgeons' Headquarters officially opened on Saturday, January 24th, 1959. This act brought to fruition many months of effort by those whose task it was to create a Headquarters Building which would appropriately reflect the professional status and character of dentistry in the province.

Many months of effort were required, even after the property had been selected, to obtain the necessary amendment to the Zoning By-Law to permit the location of a non-profit organization such as the College. Renovations to the building, located immediately south of the Canadian Dental Association Headquarters, were initiated early in the summer of 1958 and for all practical purposes were completed in December.

The new Headquarters not only houses the administrative offices of the R.C.D.S., but the Ontario Dental Association, the Academy of Dentistry, Toronto and Canadian Dental Service Plans Incorporated have rented accommodation as well.

The building provides in total, on the main and second floors, some ten offices of varying areas and a beautifully appointed Board Room. In the basement are located an Employees' lounge and various work and storage rooms. A self-contained apartment for a resident caretaker comprises the third floor.

Dr. M. V. J. Keenan of Sudbury, the vice-president of the Board acted, in the absence of the President Dr. M. C. G. Bebee of Owen Sound, as chairman. A letter was read from Dr. Bebee which expressed his regrets that while ill-health prevented him from attending he nevertheless was delighted with the tangible demonstration of progress which would make possible a broadening of the services of the profession. A beautiful bouquet of flowers from Dr. Bebee further conveyed good wishes.

BRITISH COLUMBIA

Vancouver Dentists' Wives Association

Vancouver Dentists' Wives Association entertained at an Auntie Mame theatre party, with supper dance later, at the University Club on January 10th. Before the theatre, the club's president, Mrs. John M. Carefoot, and Dr. Carefoot entertained at their Highland Drive home.

Others entertaining at parties that evening were Dr. and Mrs. Patrick Boyle, Dr. and Mrs. J. B. Wolfe, Dr. and Mrs. K. G. West, Dr. and Mrs. D. G. Burns, Dr. and Mrs. R. W. Mulvin, Dr. and Mrs. L. E. Mallin, Dr. and Mrs. H. E. Simmonds, Dr. and Mrs. C. Osborne, Dr. and Mrs. C. E. Martin and Dr. and Mrs. J. Murray McDougall.



This happy foursome has just completed the assignment of Officially Opening the new R.C.D.S. Headquarters on Saturday, January 24th, 1959. Each played a part in the Opening Ceremonies.

l to r. Hon. M. B. Dymond, M.D., M.P.P., Minister of Health of the Province of Ontario; His Worship Mayor Nathan Phillips, Q.C. of Toronto; Dr. M. V. J. Keenan, Vice-President of the R.C.D.S. and Chairman of the Official Opening; Dr. W. J. Langmaid, President-elect of the Canadian Dental Association and Chairman of the R.C.D.S. Property Committee.

The Invocation and Dedication Prayer were given by the Rev. Dr. A. B. B. Moore, President of Victoria University.

The Honourable Dr. M. B. Dymond in his address recalled some of the early history of dentistry in Ontario and spoke with high commendation on the efforts of the profession to provide various means to make dental services more readily available to all segments of the population.

His Worship Mayor Nathan Phillips extended congratulations of the City of Toronto and remarked on the appropriateness of locating the administrative headquarters for dentistry in Ontario in the province's capital.

Dr. Wesley J. Langmaid served in a dual capacity. Dr. Langmaid is Chairman of the R.C.D.S. Property Committee which was responsible for the development of the property and, as well, is President-elect of the Canadian Dental Association and in that capacity represented President Dewis of Halifax.

Dr. Langmaid both conveyed congratulations of the C.D.A. to its largest Corporate Member and presented the key to the building to the Chairman who in turn entrusted it to the Secretary.

A tour of the building followed and upon return to the Board Room refreshments were served. Mrs. Keenan and Mrs. Langmaid were most gracious hostesses.

Guests included representatives from many dental societies and associated professional groups. Beautiful floral arrangements were received from the Canadian Dental Association and the Canadian Section of the American Dental Trade Association.

An Open House followed on Sunday and this provided an opportunity for many members of the profession and their relatives and friends to visit and view the new Headquarters.

W.J.D.

Niagara Peninsula Dental Association

A meeting of the Niagara Peninsula Dental Association was held on January 16th. Dr. O. B. Coomer of Louisville, Kentucky was the guest clinician and his subject was "Why Auxiliary Personnel?". On January 17th the charter meeting of the Study Club for Practice Administration was held at the Falls-way Hotel and Dr. Coomer was again on the program. His subjects were "A Basic Philosophy of Dental Practice" and "The Practical Side of Practice Management."

Dr. Coomer is an outstanding dentist and a member of the F.A.C.D., F.I.C.D., and the Federation Dentaire Internationale. He is past president of the American Academy of Restorative Dentistry, the Kentucky Dental Association, the Louisville District Dental Association and the Kentucky Board of Dental Examiners. He has given numerous lectures and clinics over the greater part of the U. S. on the subjects of restorative dentistry and practice administration, and he has published several articles in these fields.

Both meetings were exceptionally well attended, and it was especially pleasing to the executive of a new organization that the first meeting of the Study Club for Practice Administration attracted so many members. There were dentists from Toronto, London and Orillia as well as from the immediate area of the Niagara Peninsula.

Any dentist who is interested in the future meetings of the Study Club is asked to contact any member of the executive, who will be only too glad to answer his questions. The next scheduled meeting of the Study Club for Practice Administration will be held on

September 18th and 19th, 1959, at which time the clinician will be Dr. Harry Klenda, of Wichita, Kansas, and whose subject will be "Oral Diagnosis, Treatment Planning and Presentation."

The executive for the new Study Club was elected as follows: President, Dr. James Sim; vice-president, Dr. Paul A. Bates; treasurer, Dr. George A. Oswald, all of St. Catharines, and secretary, Dr. E. S. Walker, of Port Colborne.

J.S.

Academy of Dentistry, Toronto.

In Osler Hall on Thursday, January 22, the Academy of Dentistry Toronto held its first stated meeting. To a large and eager audience, Dr. Miles R. Markley, of Denver, Colorado, presented a refreshingly lucid paper entitled "Saving Those Hopeless Teeth."

This proved to be only a warm-up session. Friday, approximately 171 members, sixteen from out of town, re-convened in the Seaway Hotel. Again Dr. Markley, who is apparently indefatigable, shared with the members more of his great dental knowledge.

Dr. Wm. A. Weir, president, approached this day with certain reservations, since this all day clinic was without precedent in Academy functions.

For the members, this was a highly successful and beneficial opportunity. Most clinic days suffer from a certain sameness of format. The efficient manner in which the meeting was conducted and the suitability of the surroundings, made this new venture a welcome relief from routine.

It is hoped that Dr. Weir is aware of the success of his undertaking and of his members' appreciation.

E. R. B.

Thunder Bay Dental Association

The following officers were elected at the annual meeting of the Thunder Bay Dental Association, held January 17, 1959: President, Dr. J. A. Stitt; vice-president, Dr. L. Opaski; secretary-treasurer, Dr. G. S. Bowles, and directors, Dr. W. D. Ramore and Dr. J. Strachan.

Dr. J. Strachan was presented with an honorary life membership in the Thunder Bay Dental Association in recognition of his fifty years of service to the profession.

G.S.B.

QUEBEC

Mount Royal Dental Society

The Mount Royal Dental Society held an all day scientific meeting at the Queen Elizabeth Hotel on Friday, January 21. The guest speaker was Dr. Arthur Elfenbaum of Chicago. Dr. Elfenbaum, a well-known authority on diagnosis came to Montreal with many qualifications, being both an experienced teacher and practitioner. He was formerly on the staff of the University of Illinois in the Department of Diagnosis, and was instrumental in developing a similar department at Northwestern University where he became Professor and chairman of that department. Upon retirement he became a consultant in Diagnosis at the Michael Reese Hospital in Chicago. He has also lectured in many parts of the United States, Canada and Europe.

His topic for the morning was "Diagnosis in the Everyday Practice." With the aid of an excellent collection of slides, he impressed upon the audience that one's aim should be to treat the patient who has the disease rather than treat the disease alone. He also stressed the importance of looking upon the dental patient as a total patient rather than as an articulator with legs.

Dr. Elfenbaum spent the afternoon discussing Roentgenographic interpretation. He looks upon an X-ray as a Kinetogram . . . a single image of a dynamic process. He convinced the audience that in an X-ray one can see more than caries and periodontal pockets. The character of the bone and the lamina dura provides us with valuable information about the patient. The modern dentist is a physician of the mouth and should be well acquainted with the oral manifestations of systemic disease.

Mount Royal Dental Society

D. Prescott Mowry Memorial Lecture

The Second Annual D. Prescott Mowry Memorial Lecture, instituted by the Mount Royal Dental Society, will be held on Monday evening, April 13th, 1959 at 8.00 P.M. in the Amphitheatre of the Montreal General Hospital. The speaker will be Dr. Donald A. Kerr, Professor and Head of the Department of Oral Pathology and Periodontics, University of Michigan School of Dentistry. He has chosen as his topic: "The Importance of Etiological Factors in Periodontal Treatment Planning."

Dr. Kerr is a Fellow and Past President of the American Academy of Oral Pathology; Diplomate of the American Board of Oral Pathology; Fellow of the American College of Dentists; Past President, the American Academy of Periodontology; and Member of Omicron Kappa Upsilon, Sigma Phi Kappa Phi, Delta Sigma Delta.

Dr. Kerr has written portions of several texts, numerous papers and has lectured extensively to Medical and Dental groups throughout the United States and Canada.

All interested members of the dental profession are cordially invited to attend.

D. S.

Montreal Dental Club

The 61st Annual Meeting of the Montreal Dental Club was held in the Queen's Hotel on Thursday, January 22nd, 1959, Dr. R. F. Harvey presiding. Before the meeting was officially under way, Dr. Harvey announced the recent death of Dr. C. F. Morison, a past President of the C.D.S.P.Q., and the last of the charter members of the Montreal Dental Club.

After greeting several out of town members, Dr. Harvey introduced the following new members to the Club:—Drs. K. Bentley, D. Gagnon, F. Faith, J. Hasegawa, R. Jones, and in absentia W. Shaw.

The Annual reports for 1958 were presented:

Dr. F. Burns, treasurer of the Club, gave the financial report for the 1958 session.

Dr. D. B. Ward, chairman of the Fall Clinic gave his report on the M.D.C.'s part in the National Convention.

Dr. C. Bourne, Club Historian and Archivist reported on the Club and members' activities.

Dr. L. E. Kent Jr. as Co-chairman of the Golf Committee reported on the Spring and Fall Golf Tournaments.

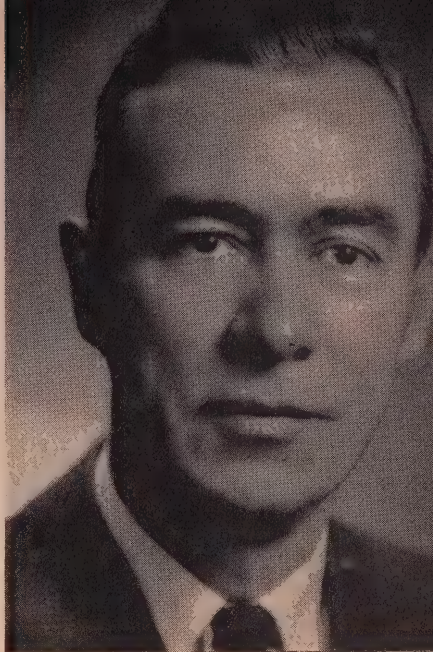
Dr. D. Armstrong, Chairman of the Public Relations Committee gave his report.

Dr. Roy Dohn, speaking on behalf of Dr. G. Dundass, reported on the activities of the insurance committee.

Dr. A. G. Racey, President of the C.D.A., spoke briefly of the Association's activities.

Dr. Harvey, as retiring president, thanked all those who had assisted him in the past year, and wished the incoming executive every success in the coming year. He then turned the meeting and his office over to the incoming President Dr. Don. C. Gordon.

Dr. Roy Dohn then read the nomination slate for 1959.



*Dr. D. C. Gordon
recently elected
President of the
Montreal Dental Club.*

Hon. President, Dr. R. F. Harvey; President, Dr. D. C. Gordon; Pres. Elect., Dr. H. T. Oliver; Secretary, Dr. H. Husolo; Treasurer, Dr. D. C. Armstrong; Historian, Dr. C. Bourne.

Directors for a period of two years: Drs. S. A. Robinson, J. Vincelli, F. L. Burns.

Directors to complete term of elected office (one year) Drs. L. E. Kent Jr., P. C. Staples, and J. E. VanVliet.

Dr. F. Edward reminded club members that the Annual Winter Meet will be held in Quebec City on the week-end of Feb. 27th, at the Chateau Frontenac Hotel. This year it will be a stag affair.

Before the meeting was adjourned, Dr. A. Mitchell proposed a vote of thanks to the outgoing executive for its most efficient handling of the Club affairs during the past year.

W.D.S.

IN MEMORIAM

Stewart Robert Adam—Dr. Stewart Robert Adam of Ponoka, Alberta, died on the 20th December, 1958. He was 57.

Dr. Adam was born in Grenville, Saskatchewan. He graduated from the University of Toronto in 1927 and practised in Cabri, Sask., prior to moving to Ponoka.

He was a past master of the Masonic Lodge and an active member of the United Church.

Surviving, are his widow, Damienne, two sons, Ian and Kenneth, one sister, Mrs. H. Phillips, and one grandchild.

William Lester Gillespie — Dr. William Lester Gillespie of Moncton, N.B., died on January 9th in Saint John General Hospital, following an illness of several months. He was 64.

Dr. Gillespie was born in Moncton and received his early education there. He graduated from Dalhousie Dental School in 1919 and practised in Moncton for many years. He recently moved to Saint John and for a short period prior to his death, associated with a dental laboratory there.

Surviving are his widow, one son, William, three sisters, one brother, Thomas G., and three grandchildren.

J. Gerard Harrington—Dr. J. Gerard Harrington of Saint John, N.B., died on December 29th, following a lengthy period of failing health.

He was born in Saint John and received his early education there. He took his dental course at Tufts Dental College, Boston, Mass., and for more than 30 years, practised in Dorchester, Mass. He retired in 1951 and returned to his native city.

During the First World War he served with the Canadian Army Dental Corps at the Armoury in Saint John.

Surviving are his widow, Edna; two sons, Gerard W. and Fred J.; one daughter, Mrs. R. Morill; one sister, Helen, one brother, Fred M. and six grandchildren.

Wilfred Johnston Preston — Dr. Wilfred Johnston Preston of Peterborough, Ontario, died on November 23rd, 1958. He was 81.

Dr. Preston was born in Manvers Township and graduated from the R.C.D.S. in 1909. He moved to Peterborough in 1917 where he practised dentistry until his retirement three years ago. He was a member of the Peterborough Dental Association.

Surviving are his widow, Irene Louise, two daughters, Betty and Muriel; a son, Dr. Wilfred G. Preston; three sisters, Emily, Mrs. I. Carscadden, and Mrs. R. Bailey; and a brother, Col. J. A. V. Preston, KC.

Cameron Langford Johnston—Major Cameron Langford Johnston of No. 5 Dental Clinic, 13 Coy., R.C.D.C., Toronto, died on July 28th, 1958.

Major Johnston was born in July 1906 at Creemore, Ontario, where he received his early education. He graduated from the University of Toronto in 1931.

Major Johnston was a member of the Knights of Round Table Fraternity; Loyal Orange Lodge W.M. 1937. Rec. Secretary 1928-29; 1939-40.

Hedley V. Wright—Dr. Hedley V. Wright of Trenton, Ontario, died on Christmas Day, he had been ill for three months and was in his 67th year.

Dr. Wright was born at Tweed, and had lived at Stirling and Madoc before commencing practice in Trenton, 40 years ago.

He was a former chairman of the Trenton School Board and was a member of the Bay of Quinte Dental Association.

He is survived by his widow, Catherine, four sons, F/O. Gerald Wright, Dr. Donald Wright, Edward Wright, and Robert Wright. Also two brothers, Dr. Fred Wright and Dr. Charles Wright, and a sister, Mrs. D. Moun-teer, and eight grandchildren.

Charles F. Morison—Dr. Charles F. Morison of Montreal, one of the founders of the Canadian Army Dental Corps, died on January 2nd, in the Montreal General Hospital following a lengthy illness. He was in his 84th year.

Dr. Morison was born in Melbourne in the Eastern Townships and was educated at St. Francis College and McGill University.

Dr. Morison practised dentistry in Montreal from 1896 to 1946 and for many years was a member of the board of governors of the College of Dental Surgeons of the Province of Quebec. He was president of that body when representations were made to the minister of defence which led to the creation of the C.A.D.C.

An honorary life member, past president and last surviving member of the Montreal Dental Club, he was also an honorary life member of the C.D.A. and the C.D.S.P.Q., and a life governor of the Montreal General Hospital. He was an honorary life member and past president of the Royal Montreal Curling Club and a member of the Royal Montreal Golf Club, the Mount Royal Club and the Mattawin Fishing Club. Dr. Morison was also a member of the Masonic Order and a 32nd degree member of the Scottish Rite.

Surviving are his widow, Beatrice, and one son, James Fraser.

Orion R. McGary—Dr. Orion R. McGary formerly of British Columbia, died suddenly in Honolulu on New Year's Eve. He was 55.

Dr. McGary was born in Victoria and received his early education at North Ward School, Victoria High School and Normal School. He had been practising dentistry in the Hawaiian Islands since 1931.

He is survived by two sisters, Rhoda and Letha, and several nieces and nephews.

Ren Sheek Robertson — Dr. Ren Sheek Robertson of Cobourg, Ontario, died on January 8th, three years after his retirement of Arctic dentist and photographer.

Dr. Robertson was born in Cornwall, Ontario, and graduated from the University of Toronto. He practised in Cornwall before going to Cobourg 23 years ago.

He made at least five trips as government dentist to Eskimos aboard the cutter "C. D. Howe" and recorded his arctic trips in movie films known from coast to coast.

Dr. Robertson was a prominent Northumberland Progressive Conservative, and in 1957 held a rally picnic in the grounds of his Renwood farm, home of the finest Guernsey cattle in the province.

Surviving are his widow, Jean, a son, John, and two grandchildren.

Frederick William McDowell — Dr. Frederick William McDowell of Barrie, Ontario, died in January, 1959.

Dr. McDowell was born in Dundalk, Ontario and received his early education there. He graduated from the University of Toronto in 1937 and practised in Alliston until 1940 and from 1945 to 1958 in Barrie.

He was a member of the Lions Club, Alliston, A.F. & A.M., Seven Star Masonic Lodge in Alliston; Xi Psi Phi Dental Fraternity, U. of T, of which he was president in 1936. He was also president of the Barrie Curling Club and a past president of the North Progressive Conservative Association.

Dr. McDowell was a Major in the Canadian Army from June 1940 to October 1945.

Surviving are his widow, Jean and two sons.

Francis Albert de Lotbiniere Harwood—Dr. Francis Albert de Lotbiniere Harwood, a member of one of Quebec's oldest families, died in Lethbridge, Alberta, in January. He was 83.

Dr. Harwood was a descendant of the Marquis de Lotbiniere, who was a brother-in-law of the Marquis Rigaud de Vaudreuil, governor of New France when the British Regime began.

Grace Elizabeth Armstrong — Dr. Grace Elizabeth Armstrong, died on January 6th in Regina, Saskatchewan. She was 93.

Dr. Armstrong was born in New Zealand and was a graduate of Otago University. She is reported to have been the first woman to practice dentistry in New Zealand. She was the daughter of Dr. J. P. Armstrong, a New Zealand pioneer with whose firm she first practised dentistry.

In 1908 she went to Regina and became a dentist with the late Dr. W. D. Cowan, and in 1917, accepted a position as public school dentist, a position which she held until her retirement in 1935.

Her interests in Regina were many, she was the first treasurer of the University Women's Club, an active member of the Women's Suffrage group; the Women's Canadian Club; the Women's Musical Club; the Natural History Society, and also was an active worker with the Society for the Prevention of Cruelty to Animals.

Dr. Armstrong is survived by one sister, Miss Nora Armstrong, and seven nephews and nieces.

ANNOUNCEMENTS

Conventions of The Canadian Dental Association

1959	Halifax, Nova Scotia	June 21st-24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Ontario)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 10-13, 1959	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
May 28,29, 30, 1959	British Columbia Dental Asso- ciation Annual Convention	Hotel Vancouver, Vancouver, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1.
May 31- June 3, 1959	Western Canada Dental Society Convention	Banff Springs Hotel, Banff, Alberta	Dr. C. S. Lea,	708 Greyhound Bldg., Calgary, Alberta.
Sept. 13- 15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden,	183 Metcalfe St., Ottawa, Ont.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal, Que.
May 15-18, 1960	Ontario Dental Ass'n. Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
July 11-14, 1960	11th Triennial Pacific Coast Dental Conference	Portland Oregon, U.S.A.	Dr. K. R. Jensen,	1033 S.W. Yamhill St., Portland 5, Oregon.

UNIVERSITY OF ALBERTA

Post graduate short courses will be presented by the Faculty of Dentistry, University of Alberta, from May 11-15, 1959. The courses will be:—

1. Orthodontics for the General Practitioner.
2. Dentistry for Children.

These courses will be presented concurrently but special arrangements have been made for some of the lectures and seminars to be given in common to both groups of applicants, so as to provide a broader knowledge of all aspects of dental care for the young patient.

Application for these courses may be made to Dean H. R. MacLean, Faculty of Dentistry, University of Alberta, Edmonton, Alberta. The tuition fee for each course is \$100.00. Enrollment for each course is limited to ten.

CANADIAN SOCIETY OF DENTISTRY FOR CHILDREN

Convention Dates

1959	Saturday, May 9th	Toronto
1960	Saturday, May 14th	London
1961	Saturday, May 20th	Toronto

L'Association Dentaire Canadienne.

JOURNAL

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Numéro 3

mars 1959

Rapport sur l'assurance-santé en Europe*

par ROBERT LeBLANC, D.D.S., Sherbrooke, P. Qué.

L'objet de cette étude qui m'a été demandée par la Société Dentaire de Montréal, est d'établir un tableau comparatif des différents systèmes d'Assurance-Santé en vigueur en Europe. Ceci afin de juger de leur efficacité et d'en tirer des conclusions qui seraient profitables pour notre pays.

Voici bien des années que le Chancelier d'Empire Bismarck a fait adopter en Allemagne le premier plan d'Assurance-Maladie destiné à protéger les travailleurs. C'était en 1883. Depuis, l'idée a fait son chemin et actuellement près de cinquante pays ont des régimes d'Assurance-Maladie.

Si les moyens adoptés varient d'un pays à l'autre et ceci suivant la mentalité des populations, leur évolution sociale, leur philosophie, le principe reste le même.

Quel est le but final de l'Assurance-Santé à l'échelle nationale?

"C'est la protection du travailleur et de

sa famille contre la maladie. Cette protection pouvant s'étendre éventuellement à tous les citoyens."

Il est utile de noter ici que la médecine et la dentisterie contemporaines, avec leurs techniques de plus en plus perfectionnées et compliquées sont devenues extrêmement onéreuses.

Que la durée de la vie a augmenté.

Que les traitements médico-dentaires sont de plus en plus recherchés par les gens.

Et enfin que l'épargne, le bas de laine, a disparu. Il en résulte que l'individu à salaire moyen n'a plus l'argent nécessaire pour faire face aux frais toujours croissants qu'occasionne la maladie. Il a donc été de plus en plus reconnu que la Santé est devenue un BIEN PUBLIC et que de ce fait, c'est la responsabilité de l'Etat de la protéger.

Cette conception de la responsabilité de l'Etat a été adoptée par un grand nombre de pays dans le monde entier et, en Europe, TOUS les pays ont un système d'Assurance-Santé national.

*Conférence donnée à la Société dentaire de Montréal.

Cette évolution sociale, à laquelle il semble qu'il est presque impossible d'échapper est sur le point de nous atteindre. Nous devons donc faire face au problème et c'est pourquoi une étude des systèmes européens dont certains ont 25, 40 et 70 ans d'existence, peut être profitable.

En Europe, presque toutes les formes d'Assurance existent et il est possible de découvrir après tant d'années d'expérience, ce qui surnage en bon et en mauvais.

Bien entendu, dans cette étude, j'envisagerai autant que possible, l'angle dentisterie, assez différent dans ses détails de l'angle médecine.

Il y a bien des moyens de classer les différents plans d'Assurance-Santé Européens.

Analyser le cas de chaque pays l'un après l'autre serait extrêmement long et conduirait à la confusion. Il est plus commode de les grouper par analogie.

La classification la plus en faveur actuellement fait porter la différenciation sur deux caractères importants.

LE MODE DE PAIEMENT AU PRATICIEN ET SA LIBERTE.

En partant de ce point de vue, on peut distinguer trois systèmes principaux et les chefs de file de ces systèmes sont:

L'UNION SOVIETIQUE, L'ANGLETERRE ET LA FRANCE.

Examinons d'abord le régime soviétique. Il comprend également les systèmes des pays situés derrière le rideau de fer: Pologne, Tchécoslovaquie, Roumanie, Bulgarie, Ukraine. Il faut y ajouter la Yougoslavie. Il est évidemment difficile d'avoir des renseignements très précis sur la Russie. Cependant en cueillant ça et là des informations, notamment en Tchécoslovaquie et en Yougoslavie, plus accessibles, retenons quelques faits notoires.

Les adultes et les enfants sont traités gratuitement dans des cliniques par les médecins et les dentistes. Ceux-ci reçoivent de l'Etat un salaire fixe pour un nombre d'heures minimum de travail par

semaine. Ils peuvent travailler plus s'ils le désirent et sont rétribués en conséquence. Ils n'ont pas de bureau privés. Il y aurait de 18 à 22,000 cliniques, dispensaires, services, hôpitaux dans les centres urbains en Russie. Les campagnes sont desservies par des autobus spéciaux parfaitement organisés.

70 à 75% des dentistes sont des femmes. Il manque évidemment de dentistes comme partout d'ailleurs et un gros effort est fait pour y remédier. Il y a deux Instituts Stomatologiques, 12 Facultés Stomatologiques et 4 Ecoles dentaires, fournissant environ 1600 nouveaux dentistes par an.

"Les enfants reçoivent un traitement obligatoire au fluor depuis 1948".

La qualité des soins paraît élevée. La recherche est active dans tous les domaines de la dentisterie moderne.

Notons enfin que le salaire des dentistes et des médecins est le même.

De ce tableau très court et très incomplet que faut-il retenir?

C'est que le Dentiste, comme le Médecin, est un SALARIE DE L'ETAT A PLEIN TEMPS. Il n'a pas de bureau privé et ne peut en avoir. C'est la véritable ETATISATION de la médecine et de la dentisterie.

PAS DE LIBERTE, ni chez le patient qui ne peut choisir son dentiste, ni chez le dentiste qui doit exécuter le travail qu'on lui impose.

Si cette philosophie de vie professionnelle peut donner des résultats dans des pays totalitaires, elle serait certainement peu goûtée dans nos pays libres.

"Nous allons maintenant passer au deuxième groupe de pays. Ce sont l'Angleterre, les Pays Bas, l'Autriche, l'Allemagne de l'Ouest, la Suisse, l'Italie, le Danemark.

En suivant la classification que nous avons choisie, ces pays ont des plans d'Assurance-Santé à peu près semblables et pour simplifier et abréger cet exposé nous ne considérerons que le système Anglais.

Le régime de la Grande Bretagne est celui que tout le monde ici connaît le mieux. Il a été scruté minutieusement par

toute la profession nord-américaine depuis son application et ses défauts ont été soigneusement relevés.

L'Angleterre possédait depuis 22 ans un plan d'Assurances-Sociales modéré s'appliquant seulement aux salariés.

En 1945, sous la poussée du gouvernement travailliste, elle a tenté une grande expérience en accordant la GRATUITE des soins à toute la population.

Voici les grandes lignes du Service National de Santé Anglaise (Section Dentaire).

Le dentiste est libre d'adhérer ou non au Service. En fait plus de 95% sont inscrits, l'inscription se fait aux COMITES EXECUTIFS. Ceux-ci sont répartis par secteur et publient les listes des dentistes inscrits. Des dentistes siègent sur ces Comités.

Les Patients sont libres de choisir le dentiste qu'ils veulent à condition qu'il soit inscrit au Service. Il y a un COMITE DENTAIRE DES ESTIMATIONS qui évalue le travail et la rémunération.

Tous les travaux mineurs n'exigent aucune autorisation pour être exécutés. Il y a une nomenclature à cet effet. Pour les autres traitements, il faut une approbation avant de les entreprendre. Le dentiste doit établir un devis et le soumettre au Comité des Estimations qui l'accepte, le rejette ou le modifie. (Il faut remarquer que le patient peut, en cas de refus, faire faire le travail à ses frais.)

Voici les principaux types de traitement demandant une approbation préalable:

Extractions à la suite desquelles un appareil de prothèse sera nécessaire,
Confection d'une prothèse,
Traitement prolongé des gencives,
Chirurgie buccale,
Orthodontie,
Fourniture d'obturation en or, inlays, couronne, bridges.

Le dentiste est libre de traiter autant de patients du Service qu'il veut ou QU'IL PEUT. En outre, il est libre de traiter autant de patients privés (actuellement seulement 4 à 5% sont des patients privés).

LE DENTISTE EST PAYE A L'ACTE

OPERATOIRE DIRECTEMENT PAR LE COMITE EXECUTIF A QUI IL PRESENTE SA NOTE DE FRAIS, ET CECI SUIVANT UN TARIF ETABLI PAR LE GOUVERNEMENT. Ce point est à retenir. Le financement du Service National est assuré par des impôts et des taxes. Comme il fallait s'y attendre, le volume de travail, dès l'application de la loi, a augmenté en flèche. Ceci d'ailleurs est la preuve de l'Utilité du Service de Santé.

Devant cet afflux d'ouvrage, les dentistes n'ont pu répondre à la demande. Puisqu'il devenait très difficile et même impossible de se faire traiter, il a fallu établir un système de priorité et d'urgence.

"Les femmes enceintes, les jeunes mères, les jeunes enfants ont un droit de priorité." Les cas d'urgence sont des infections graves et les douleurs violentes.

L'application de ce plan national n'a pas été sans créer une grande perturbation dans la vie des praticiens. Les années ont passé et des changements mineurs ont été apportés, mais il règne dans toute la profession un malaise.

Quelles sont les raisons de ce mécontentement?

D'abord la GRATUITE TOTALE qui a provoquée une telle demande que le travail sérieux est rapidement devenu impossible. Devant cet état de chose, nos confrères n'ont pas tardé à réagir et il semble qu'ils ont adopté deux voies.

Un certain nombre de praticiens ont carrément fermé leur porte à de nouveaux patients et ont continué à ne recevoir qu'un nombre raisonnable de malades ce qui leur permet de maintenir un niveau professionnel élevé, mais n'a pas augmenté leur revenu. Les autres, les plus nombreux et aussi les plus jeunes, les plus vigoureux, voulant rendre le maximum de service, et peut-être aussi sous l'appât du gain, ont décidé de recevoir tout le monde.

Ici la qualité des soins n'a pas tardé à baisser, car il faut aller très vite et bacler l'ouvrage. C'est un travail à la chaîne qui ne donne satisfaction ni au dentiste, ni aux patients.

Comme vous le savez, au début de l'application du Service National de Santé certains dentistes ont réalisé des profits extrêmement élevés, au grand mécontentement des médecins. L'Etat a réagit et a IMPOSE une limite des profits en BAISSANT le tarif, ce qui n'a pas été très populaire.

Il y a d'autres raisons de mécontentement. Il y a la PERTE DU DROIT DE PRESCRIPTION.

En effet, lorsqu'un confrère anglais prescrit une prothèse, une opération chirurgicale, un traitement conservateur long, il doit en faire LUI-MEME la demande au Comité des Estimations. Cela prend du temps et la réponse il doit la communiquer à son patient. Si cette réponse est un refus ou si une autre forme de traitement est préconisée, cela met le dentiste dans une position difficile et porte atteinte à son prestige en l'**humiliant**, autrement dit, il y a une autorité supérieure qui contrôle, juge de l'opportunité d'un traitement prescrit par le dentiste. Devant cet état de chose beaucoup hésitent à recommander un traitement qu'ils jugeraient utile s'ils exerçaient librement.

En définitive, toute la profession est mécontente et cela se reflète sur le nombre d'étudiants dans les facultés. Les jeunes gens ne sont pas attirés par une profession si décriée par les professionnels.

De l'étude du système anglais, il faut retenir pour le classer: Que le dentiste EST PAYE A L'ACTE PAR L'ETAT: ce n'est pas un salarié comme en Russie mais il doit pour se faire payer traiter directement avec ce que l'on appelle UN TIERS PAYANT. Cette conception du tiers payant est extrêmement importante, CAR CE TIERS PAYANT, L'ETAT, SE GLISSE ENTRE LE PATIENT ET LE PRATICIEN. IL FIXE LE TARIF, IL DEVIENT RAPIDEMENT EXIGEANT SUR L'UTILITE D'UN TRAITEMENT, CONTROLE ET FINIT PAR LIMITER LA LIBERTE D'EXERCICE DU DENTISTE.

Il y a un autre point que je tiens à signaler ici: C'est que si tout le monde s'accorde à juger qu'une réforme ou une refonte de ce plan est nécessaire, cela semble impossible.

Le Gouvernement conservateur a repris le pouvoir et le Service National de Santé n'a guère changé, si ce n'est qu'il a fallu pratiquer des économies et baisser le tarif.

RETENONS QUE LORSQU'UNE FORMULE EST ADOPTÉE DANS UN PAYS, IL EST TRES DIFFICILE EN MATIERE SOCIALE DE REVENIR EN ARRIERE. C'est irréversible car les électeurs de plus en plus exigeants s'y opposent. Il faut donc bien réfléchir avant de franchir le premier pas.

Que vous dirai-je des autres pays de ce groupement, ils ont la GRATUITE limitée aux salariés mais ont tous le régime du TIERS PAYANT.

Dans certains cas, les tarifs IMPOSES sont tellement bas comme en Autriche qu'il a fallu que médecins et dentistes se mettent en grève il y a quelques mois, ce qui est un moyen extrême, fort désagréable.

En Italie, les soins sont donnés aux Assurés par les Mutuelles et toujours pour raison de tarif, tout récemment les Dentistes refusent de prêter leur concours à ses mutuelles, c'est une forme de grève.

En Allemagne de l'ouest, les dentistes se voient imposer un tarif de misère. Seule la Grèce présente un tableau plus original.

Une enquête faite par le Docteur Schmidt-Lamberg, publiée dans le Zahnärztliche Mitteilungen, montre que dans ce pays tout est mis en œuvre pour propager l'hygiène dentaire et rendre les soins dentaires obligatoires. La reine Frederica s'occupe personnellement de cette question.

Seulement ici la population se montre réfractaire, il n'y a pas d'encombrement des bureaux et il est question d'une loi selon laquelle les personnes atteintes de maladies dentaires seront tenues de se

soumettre au traitement sous peine de sanctions. Les récalcitrants pouvant être conduits de force dans un bureau de dentiste!

Il nous reste maintenant à examiner le troisième et dernier SYSTÈME. C'est la "Sécurité Sociale française". Système en vigueur depuis 1930 soit 27 ans. C'est à mon avis celui qui a le mieux respecté les fondements de la profession médicale-dentaire.

Quels sont ces fondements?

LA LIBERTÉ DU CHOIX DU PRATICIEN.

LA LIBERTÉ DE PRESCRIPTION

LE SECRET PROFESSIONNEL

PAIEMENT DIRECT DES HONORAIRES PAR LE MALADE.

Voici les grandes lignes de la "Sécurité Sociale". Font parti de la "Sécurité Sociale" obligatoirement tous les salariés et membres de leur famille, c'est-à-dire environ 80% de la population. "Le paiement des soins se fait par des Caisses d'Assurance régionales".

Celles-ci sont alimentées par des prestations que paient salariés et patrons (exactement comme ici pour l'Assurance-Chômage).

"Lorsqu'un assuré a besoin de se faire traiter, il va demander à la Caisse Régionale une FEUILLE SPECIALE DITE DE TRAITEMENT. Puis il se présente muni de cette feuille chez le praticien de son choix".

Celui-ci exécute les travaux qu'il juge nécessaires et les inscrit au fur et à mesure sur la feuille. Cette inscription se fait suivant un système-clé spécial qui respecte le secret professionnel. "Je vous rappelle que la médecine française est très attachée au secret professionnel".

Le traitement achevé, le patient PAYE LE DENTISTE qui lui remet sa feuille de traitement signée et acquittée. Le patient rapporte cette feuille à la Caisse d'Assurance et se fait rembourser. Mais ici il y a une clause très importante. Seulement 80% des frais sont remboursés, les autres 20% le patient doit les payer de sa poche.

C'est ce qu'on appelle le "TICKET MODERATEUR".

Cette importante caractéristique a été établie dans le but d'éviter les abus de freiner la demande et les résultats ont été excellents en évitant l'encombrement des bureaux. De cette façon, le salarié garde encore une responsabilité personnelle de sa santé dans la proportion du 1/5.

COMME VOUS LE VOYEZ, LA FEUILLE DE TRAITEMENT EST LA PIECE CAPITALE, ELLE CONSTITUE LA FACTURE ET LA QUITTANCE ET REDUIT A SA PLUS SIMPLE EXPRESSION LA PAPERASSERIE.

Il n'y a pas de TIERS PAYANT, le dentiste en matière d'honoraires traite directement avec son patient, IL EST PAYE PAR LE PATIENT et c'est celui-ci qui se fait rembourser par l'Etat. Ce système est nettement différent du système anglais.

Comment le montant du traitement est-il calculé, et comment le secret professionnel est-il sauvegardé?

Le tarif est évalué à L'ACTE ce qui a nécessité une très vaste nomenclature. Tout acte est désigné seulement par une ou plusieurs lettres suivies d'un coefficient.

Ainsi CHI désignera la chirurgie.

GYN désignera la gynécologie.

OPH désignera l'ophtalmologie.

D désignera la dentisterie et ainsi de suite.

Le coefficient adjoint à la lettre indique la valeur relative de l'acte professionnel. Ainsi, par exemple, le praticien se rapportant à la nomenclature inscrira sur la feuille de traitement

Pour une extraction simple D 3

Pour une obturation simple D 4 etc.

La valeur de D a été établie à l'avance mais peut varier périodiquement suivant l'indice du coût de la vie et l'augmentation générale des salaires du pays.

Il peut être de 240 francs, 250 francs, 260 francs. Par exemple, à 260 francs, nous obtenons pour une extraction simple D 3 la somme de $260 \times 3 = 780$ francs soit un peu plus de \$2.00.

Un coefficient spécial supérieur est prévu pour les spécialistes et consultants. La nomenclature n'est peut-être pas parfaite, mais elle couvre presque tous les actes professionnels, y compris les opérations sur les maxillaires, la prothèse restauratrice maxillo-faciale et l'orthodontie.

Pour la prothèse et pour certains traitements pouvant entraîner des frais élevés, il faut, pour que les caisses les remboursent, demander une autorisation. Dans ce cas le dentiste établit un devis sur une feuille spéciale **ET C'EST LE PATIENT QUI DOIT FAIRE LA DEMANDE D'AUTORISATION.**

Cela sauve bien des ennuis et des formalités au praticien et le droit de prescription est mieux respecté.

Evidemment tout ce système comme le système anglais nécessite un contrôle, car il y a des fraudeurs partout. Il serait trop long d'aborder ce chapitre ici, mais il faut remarquer que le nombre des fraudes est extrêmement bas.

De ce système, je retiendrai qu'il n'y a pas de **TIERS PAYANT**, le patient paye directement son dentiste sur remise de la feuille de traitement acquitté. Puis il se fait rembourser les 80% qui lui reviennent.

Cette formule ne transforme pas le dentiste en un fonctionnaire plus ou moins déguisé et les rapports entre praticien et patient respectent deux sentiments fondamentaux, **CONFIANCE ET LIBERTE** qui sont indispensables au maintien de la conscience professionnelle.

En résumé, cette analyse de l'Assurance-Maladie en Europe nous montre trois types principaux: **DANS LE PREMIER, LE DENTISTE EST UN SALARIE DE L'ETAT A TEMPS COMPLET. DANS LE DEUXIEME, LE DENTISTE EST PAYE PAR L'ETAT SUIVANT UN SYSTEME A L'ACTE ET LES SOINS SONT GRATUITS. DANS LE TROISIEME, LE DENTISTE EST PAYE PAR LE PATIENT QUI SE FAIT REMBOURSER 80% PAR L'ETAT.**

Pour conclure cette étude, nous devons

maintenant envisager la question en tant que Canadiens et plus particulièrement en tant que dentistes de la Province de Québec.

Je crois que pour les salariés et pour nous dentistes, un plan d'Assurance-Santé **BIEN CONCU, BIEN AJUSTE** offrirait beaucoup plus d'avantages que d'inconvénients.

Par exemple, un père de famille, même d'une grosse famille, et nous en avons beaucoup, ce père ayant un salaire moyen pourrait enfin être en mesure de faire traiter ses dents ainsi que celles de sa femme et des ses enfants sans restriction.

"Et nous, dentistes lorsque nous aurions à traiter les 6 ou 8 enfants d'une même famille, et si l'extraction nous répugne, nous n'aurions plus à nous creuser la tête pour établir un tarif global, acceptable pour le salaire du père et finir par faire une demi-charité ce qui arrive tous les jours à nos dépens. Nous ne verrions plus de ces bouches d'enfants abandonnées faute de moyens financiers et vouées à l'extraction. Nous ne verrions plus d'enfants de 12, 13 et 14 ans porter des dentiers complets.

Le dentiste assuré d'une rétribution convenable s'appliquera à sauver le maximum de dents, et les dentistes malhonnêtes, **LES VIDEURS DE BOUCHE**, et nous en avons suffisamment dans la Province, seraient immédiatement repérés par les Contrôleurs de l'Assurance, signalés au Collège et rayés de l'Assurance-Santé, **CEUX-LA DEVRONT OU SE REFORMER OU DISPARAITRE.**

"Nous n'aurions plus autant de ces comptes impayés qui traînent dans nos bureaux, qui sont une nuisance et souvent une perte complète".

Enfin un autre avantage très spectaculaire, **CE SERAIT LA DISPARITION DE L'EXERCICE ILLÉGAL**, comme il a à peu près disparu en Angleterre et en France. En effet, pour obtenir une prothèse, au frais de l'Etat, l'Assuré doit forcément s'adresser au dentiste, **SEUL HABILITE** à signer les feuilles de traitement.

Ayant exercé en France, avant l'application de la Sécurité Sociale, je peux vous dire qu'il y avait autant d'illégaux à ce moment qu'ici actuellement, et c'était même pire car ils enlevaient également les dents. Après l'application de l'Assurance-Santé, ces illégaux ont disparu très rapidement.

Nous devons nous rappeler qu'au Canada et aux Etats-Unis, les médecins ont actuellement 70% de leurs patients appartenant à une forme d'assurance-Maladie volontaire, comme la Blue Shield et la Croix Bleue. Très satisfaits des avantages qu'ils en retirent, ils peuvent se permettre de combattre l'assurance Santé Nationale.

Pourquoi nous dentistes qui ne recevons d'aide d'aucun organisme privé, nous croyons nous obligés d'appuyer les vues du corps médical, alors que nous savons très bien que les médecins se soucient bien peu de nous.

En 1956, étant en France, j'ai visité et interrogé de nombreux confrères. Ils vivent bien et ont un bon chiffre d'affaires. S'ils se plaignent ce n'est pas de la Sécurité Sociale elle-même, de ses principes, mais de l'évaluation de la fameuse lettre D qui n'a pas suivi les fluctuations du coût de la vie et les dépréciations successives du franc. Mais tous reconnaissent les avantages de leur système d'Assurance-Santé qui est le plus LIBERAL d'Europe.

On nous dit ici l'Assurance-Maladie va encombrer nos bureaux comme en Angleterre; à ceci je répondrais qu'en France il y a 15,000 dentistes pour une population de 44 millions d'habitants, à peu près la même proportion que chez-nous, et, grâce au TICKET MODERATEUR et à la limitation de l'Assurance aux salariés, s'il y a beaucoup de travail pour tous les dentistes, il n'y a pas d'encombrement.

APRES 27 ANS D'EXISTENCE LE SYSTEME FRANCAIS N'A PAS ENTACHE LE CARACTERE LIBERAL DE LA PROFESSION. La dentisterie française est de haute qualité. Elle possède d'habiles praticiens et de grands savants, nous en avons eu un échantillon récemment en la personne du Dr Bataille.

Et qui oserait prétendre que la valeur de la médecine française n'est pas reconnue dans le monde entier? Ceci constitue la preuve que l'Assurance-Santé ne conduit pas nécessairement à la médiocrité, comme l'affirment les médecins américains.

Pour finir cette étude il nous reste à examiner la position prise par la C.D.A. et nous devons nous demander si nos intérêts sont protégés.

L'A.D.C. qui étudie ce problème depuis de longues années a résumé ses vues dans une déclaration de 23 principes. Dégageant de ces principes ce qui touche directement le praticien dans son travail journalier j'ai retenu qu'il est proposé LE TRAITEMENT GRATUIT DE TOUS LES ENFANTS JUSQU'A L'AGE DE 16 ans, et qu'en matière d'honoraires, il n'y a rien de très précis, il est envisagé qu'ils seraient PAYES DIRECTEMENT AU PRACTICIEN par un fond d'assurance de l'Etat. Il est étrange de constater que ces deux principes capitaux aient été adoptés.

LA GRATUITE TOTALE (même si elle n'est appliquée au début qu'à une portion de la population) et LE TIERS PAYANT, les deux facteurs qui se sont révélés les plus nuisibles dans les pays qui les ont appliqués. C'est une forme mitigée de l'expérience anglaise et c'est à prévoir que si nous mettons le doigt dans cet engrenage, en moins de dix ans sous la pression des électeurs, nous aurons la gratuité totale pour tout le monde. Autrement dit, nous serons à la merci des gouvernements successifs.

Certes, il est sage de vouloir que nos enfants soient traités mais pourquoi la gratuité totale? Nos bureaux seront vite encombrés par les enfants ET IL N'Y AURA PLUS DE PLACE POUR LES ADULTES QUI NE TARDERONT PAS A MANIFESTER LEUR MECONTENTEMENT. Il faudrait 800 dentistes dans la Province de Québec pour soigner les 6 ou 700,000 enfants que nous avons, soit les $\frac{3}{4}$ de notre effectif, en admettant que cet effectif soit physiquement et mentalement apte à ne pratiquer que la pédodontie.

Pour rester pratiques il faut un frein modérateur. D'autre part, nos intérêts ne seraient pas protégés, car les adultes ayant besoin de dentiers ne pouvant avoir facilement accès aux bureaux des dentistes auront recours de plus en plus aux services des techniciens qui auront beau jeu pour réclamer un statut légal.

Dans notre Province, notre population et notre profession ont droit à un système d'Assurance dentaire. Cette assurance peut se faire avec l'aide du gouvernement. Mais une SOLUTION MODEREE DOIT être appliquée qui tout en favorisant tout le monde respectera dans l'avenir notre liberté.

Après sa visite au Canada comme représentant officiel de la Grande Bretagne au dernier Congrès de l'A.D.C., M. Lionel Balding, Chairman of Council, a exprimé cette pensée: "He felt sure that both the Canadians and the Americans saw the likelihood of having socialized dentistry in the near future and were very concerned about it. They were anxious to hear of conditions in Britain so that they could, as far as possible, AVOID THE MISTAKES made there".

A cet avis il faut ajouter et méditer la conclusion faite par M. Maurice Vincent,

Secrétaire Général de la Confédération Nationale des Syndicats Dentaires Français dans son rapport sur l'Assurance-Santé en Europe, présenté aux Membres de la Commission des Services Odontostomatologiques de la Fédération Dentaire Internationale à Rome en Septembre 1957.

La raison des perturbations dans les rapports entre Organismes de Sécurité et les Organisations Professionnelles a presque partout la même origine: Les organismes de Sécurité Sociale ont peu à peu et de plus en plus porté atteinte au CARACTERE LIBERAL de la profession, en instituant DES TIERS PAYANT, en S'IMMISCANT DANS L'EXERCICE PROFESSIONNEL LUI-MEME, EN LIMITANT OU EN S'OPPOSANT A L'ENTENTE DIRECTE ENTRE LE MALADE ET LE PRATICIEN, EN CREANT DES CABINETS DENTAIRE COLLECTIFS, FAISANT UNE CONCURRENCE DELOYALE AUX PRATICIENS LIBRES.

C'est pour toutes ces raisons que la conscience professionnelle se révolte et que nous constatons actuellement les graves conséquences D'ERREURS QUI AURAIENT DU, CERTES, ETRE EVITEES.

151 King ouest

NOUVELLES DU CORPS DENTAIRE

Le QG de l'Armée vient d'annoncer que le capitaine J. P. R. Guay, de Lauzon (Qué.) a été promu major à compter du 17 novembre 1958.

Né à Lauzon le 26 septembre 1926, le major Guay poursuit ses premières études dans sa ville natale. Il obtient son B.A. du Collège Lévis en 1947, puis son diplôme de D. Ch. D. en 1951 de l'Université de Montréal. Il endosse l'uniforme de l'Armée, Corps dentaire, en juin 1951 au grade de capitaine. Il est affecté à la région militaire du Québec. En octobre de cette même année, il est envoyé à la région militaire des Prairies où il demeure en fonctions jusqu'à son licenciement en juin 1954. En septembre 1954, le major Guay s'engage de nouveau dans le Corps dentaire et sert dans la région militaire de l'Est jusqu'en février 1956 alors qu'il est envoyé en Allemagne pour faire partie de la 1re unité dentaire de campagne. De retour au Canada en juillet 1958, il assume son poste actuel de

dentiste militaire à Québec. Le major Guay est marié et père de deux enfants.

* * *

L'Armée annonçait récemment la retraite du major H. R. Brown, du Corps dentaire royal canadien. Le major Brown est natif de Montréal. En 1926, il reçoit son diplôme de D.Ch.D. de l'Université McGill, puis pratique à Montréal jusqu'au moment de rallier le Corps dentaire de l'Armée canadienne en septembre 1940. Il sert outre-mer pendant trois ans, c'est-à-dire au Royaume-Uni et en Europe du Nord-Ouest. Il obtient son licenciement en décembre 1945. Le major Brown s'engage de nouveau dans le Corps dentaire en novembre 1948 au grade de capitaine. On l'affecte à la région militaire de l'Est. Dupuis lors, il a servi pendant cinq ans dans la région militaire des Prairies, pour ensuite revenir à la région militaire de l'Est en juillet 1958. Le major Brown est marié. Il est présentement employé par le Corps dentaire à titre de dentiste civil à Halifax.

EDITORIAL

Assurances dentaires

On ne peut nier que depuis vingt-cinq ans la formule de payer les services de santé a beaucoup changé. Autrefois, le malade faisait appel à son médecin, payait ses honoraires sur le champ ou "les faisait mettre sur son compte". Quand, dans les campagnes, il ne faisait pas du "troc": poulets en échange de consultation et de remèdes!

La procédure a considérablement varié depuis ce temps. Les causes? — Des communautés sociales se sont formées. On vit davantage en agglomérations. Les petits artisans sont devenus des ouvriers d'usine; les cultivateurs font partie de sociétés ou de coopératives, où ils coudoient leurs semblables.

L'essor industriel du pays a amené les syndicats ouvriers. Les gouvernements, en retour, subissent l'influence socialisante. On ne vit plus seul: on est membre d'un groupe. On découvre qu'une association représente une très grande force. On utilise cette puissance au bénéfice de l'individu. On met ses risques en commun, on partage. Les assurances sont nées.

En même temps, la mentalité change pour la question des hôpitaux. Autrefois, seul le grand malade se rendait à l'hôpital. Aujourd'hui, l'hôpital est accepté dans l'existence journalière. On s'y rend pour un examen; le premier regard du nouveau-né se pose sur une pouponnière.

Les moyens de diagnostic se sont développés. Les laboratoires se sont multipliés. Les médicaments se compliquent en se bonifiant. Le dentiste contemporain dispose d'appareils radiographiques, de turbines ultra-rapides, de matériaux précis. La moyenne de vie s'est allongée: en 1940, 61 ans; en 1958, 71 ans. Mais tout cela coûte plus cher qu'autrefois. La maladie coûte cher, très cher. Rares sont ceux qui peuvent se payer le luxe (sic) d'une maladie longue à l'hôpital. On n'a pas les moyens de rester individualiste pour les traitements. On fait partie de systèmes d'assurances, avec ou sans but lucratif. C'est la collectivité qui assume les frais. L'individu paie une prime fixe, qui le protège, lui et ses dépendants, contre la maladie.

Selon le docteur Joseph Strack, directeur de la Division des Ressources dentaires des services de Santé publique de Washington, cent-treize millions d'individus—soit les deux tiers de la population des Etats-Unis—portent des assurances contre la maladie et l'hospitalisation. La plupart ont les deux. La peur des maladies de longue durée et de celles qui laissent des séquelles et surtout les déboursés souvent catastrophiques qu'elles entraînent ont porté le public à s'assurer pour les frais médicaux et hospitaliers. Les assurances contre les accidents et les maladies sont entrées dans les mœurs.

La population y tire des bénéfices tels qu'elle se demande pourquoi on ne lui offre pas des plans semblables d'assurances dentaires. Mais la situation se complique dès qu'on parle d'assurances pour le traitement des dents. Moins de 1% de la population étatsunienne adhère à des plans donnant la protection la plus élémentaire, telle qu'examen, radiographies, extractions. Cette proportion baisse à 1/5 de 1%, si on y ajoute les obturations. Les plans d'assurance dentaire sont actuellement où en étaient les assurances pour l'hôpital, il y a vingt-cinq ans.

Aujourd'hui, on commence à réaliser que la santé dentaire joue un grand rôle dans l'équilibre physiologique de l'organisme. Des groupes de consommateurs, sous l'égide d'unions, d'employeurs ou d'organismes coopératifs cherchent par toutes sortes de moyens à s'assurer contre les déboursés occasionnés par les maladies dentaires. Le désir qu'ont les gens de s'assurer est probablement plus grand que ne le laissent voir le nombre formel de demandes pour des assurances dentaires. On pourra répondre efficacement à ce marché latent, quand on aura résolu les problèmes particuliers à la dentisterie. Le problème le plus grave consiste dans la façon de régler le coût des premiers traitements, car on peut facilement supposer que presque tous les nouveaux assurés auront besoin de traitements. Si le plan d'assurance couvre les traitements initiaux, les primes seront trop élevées. Par ailleurs, si les assurés doivent payer des sommes considérables pour des traitements qui s'imposent avant de devenir assurables, ils jugeront, non sans une certaine logique, qu'il ne vaut plus la peine de s'assurer, les grosses dépenses étant faites.

Depuis 1950, il y a des innovations dans les systèmes de pré-paiement ou d'assurances. Dans un cas, par exemple, on a organisé une clinique où sont employés des dentistes qui traitent les souscripteurs d'un groupe donné. Ailleurs, des sociétés dentaires ou des dentistes individuellement ont formé une corporation pour des services où les adhérents à un groupe sont traités dans les cabinets privés des dentistes en question. Plusieurs polices d'assurances sont émises pour couvrir les dommages causés par des accidents aux dents naturelles; il y a aussi des plans pré-payés de médecine générale qui couvrent la chirurgie buccale majeure.

Le public recherche de plus en plus des plans de services dentaires pré-payés et les assureurs seront appelés à étendre leur champ d'activité. Il se peut cependant que les compagnies d'assurances ne parviennent jamais à couvrir les traitements dentaires de routine. Des systèmes pratiques et effectifs s'imposent pour répondre à cette demande créée par ce désir de protection manifesté par le public. Voilà une occasion unique pour les groupements de dentistes et pour ceux qui se préoccupent de la santé du public de faire preuve d'imagination constructive. Ceux qui veulent bénéficier de ces plans pré-payés veulent certes se faire traiter, mais ils souhaitent aussi recevoir des conseils susceptibles de les éclairer sur l'organisation de ces plans. La qualité des traitements se maintiendra seulement si les dentistes participent à la réalisation de ces systèmes. C'est pourquoi, les associations dentaires et celles qui s'occupent de la santé de la population doivent commencer sans retard à trouver des solutions à ce problème. Il est encore temps de préparer des plans pour des services dentaires pré-payés qui mettront à la disposition d'un nouveau public plus nombreux les traitements les meilleurs possibles.

Il y a aux Etats-Unis 500,000 personnes qui font partie de groupes de traitements dentaires. Ces plans, individuellement, peuvent être bons, mauvais, quelconques. Leur ensemble représente à coup sûr une nouvelle formule de traitements dentaires pleine de promesses; ils peuvent aussi devenir un obstacle à l'avancement de la dentisterie. Le seul but du dentiste, au milieu de tous ces problèmes, est de faciliter les traitements pour un plus grand nombre de personnes.

Gérard de Montigny.

Qui faut-il éduquer . . .

par ANDRÉ CHAREST, D.D.S., Québec, P. Qué.

Après avoir participé au dernier congrès de l'A.D.C. tenu à Montréal, en octobre dernier, nous avons constaté que les organisateurs s'étaient mérité des félicitations pour avoir accompli une œuvre aussi bien réussie. Le décorum social de ce congrès était très agréable de même que l'atmosphère scientifique.

Au point de vue administratif, il y eut plusieurs réunions où de nombreux problèmes furent discutés, sans que toutefois, à cause de leur nombre, tous les membres puissent y prendre part. Pour combler cette lacune, les organisateurs eurent l'excellente idée de faire une enquête qui nous a permis de connaître la réaction de tous les confrères en regard des problèmes au sein de la profession. Parmi ceux-ci, il en fut un que l'on envisagea de façon particulière, et qui portait le numéro d'ordre:

11e Question:

- 1) Devrait-on s'instruire davantage?
- 2) Devrait-on éduquer le médecin?
- 3) Devrait-on faire amender la loi hospitalière?

Hélas! la majorité de nos confrères ont voté, croyez-le ou non, pour éduquer le médecin et amender la loi hospitalière, croyant ainsi mettre fin aux difficultés qui existent déjà entre dentistes et médecins.

Il est bien entendu que les médecins, d'après nous, ne reconnaissent pas nos droits scientifiques et légaux et nos possibilités d'action dans les hôpitaux. Mais comment pouvons-nous croire que nous pourrions corriger cette situation en voulant instruire ou éduquer le médecin. Ne serait-il pas gênant de vouloir leur offrir ce que nous ne possédons pas, ou du moins, ne mettons pas en pratique.

Est-ce en ayant l'air de déclarer la guerre que nous réussirons à résoudre nos problèmes?

Si nous voulons que le médecin soit bien informé de nos problèmes, ne faut-il pas trouver un moyen de le rencontrer et

ce moyen idéal ne serait-il pas la fréquentation de l'hôpital. Mais il faut se rappeler que cette fréquentation ne saurait se faire si nous ne possédons pas la formation élémentaire nécessaire, pas plus qu'on ne peut fréquenter les salons sans un minimum d'éducation.

Bien sûr, il y a des exceptions et il est entendu qu'il y a des confrères qui ayant eu l'avantage de faire des contacts plus étendus et des études plus poussées, peuvent nous représenter très convenablement dans les milieux hospitaliers, mais il s'agit là d'un pourcentage tellement mince qu'il ne prend pas de signification importante dans la masse de ceux qui ne sont pas préparés pour cette représentation.

Nous croyons qu'il faut commencer par approfondir nos propres connaissances et mettre en pratique ce que nous apprenons sur le plan théorique. Ce n'est que sur des bases solides qu'un corps professionnel peut se permettre d'avancer et c'est là une excellente pour ne pas dire, la meilleure publicité qu'une association comme la nôtre puisse se permettre.

Il faudrait considérer que parmi les remèdes à nos lacunes, les cours post-scolaires ne sont peut-être pas le plus indiqué, car ayant déjà à subir quatre années d'études universitaires, il arrive donc qu'il devient difficile ou même impossible pour plusieurs d'entre nous, de se permettre d'autres dépenses dans ce sens. Mais si l'on considère la grande importance que l'on consacre à la technique de laboratoire pendant notre cours de chirurgie dentaire, nous sommes d'opinion qu'il y aurait possibilité d'inclure dans le cours, en prenant sur le temps de technique, un internat d'hôpital.

Ceci représenterait un double avantage en nous faisant faire le point sur nos connaissances et en nous apportant, tout probablement, le désir d'études plus poussées et l'occasion de nous rompre aux

habitudes des hôpitaux où nous avons un légitime désir de parvenir.

D'autre part, nous ne devons pas porter tout le blâme. Il faut reconnaître que les médecins n'ont pas fait d'effort pour nous comprendre, nous et nos problèmes, et aussi, que la législation des hôpitaux envers nous est très rigide. Certes nous devons défendre nos droits et réclamer notre dû, non pas seulement avec des arguments mais aussi avec une base solide et une préparation adéquate permettant de mettre en pratique ce que nous affirmons.

Nous devons nous attacher à lutter pour un principe et non pas pour des cas particuliers. La compréhension réciproque

entre les deux groupes devra se faire en regard de nos capacités et en présence d'un corps dentaire plus instruit et mieux préparé pour cette vie hospitalière à laquelle nous aspirons. Aussi longtemps que nous ne pourrons pas faire un internat à l'hôpital, nous croyons que le problème sera insoluble et ce problème, il est urgent.

Pour augmenter le niveau de nos exigences, pour l'admission à la pratique ainsi que pour modifier nos constitutions et celles des hôpitaux, il faut considérer qu'il en prendra beaucoup de temps. Mais, le principe d'une meilleure préparation étant admis, rien ne nous empêche dès maintenant, de nous préparer et de nous instruire davantage!

Congrès de l'Association dentaire de la province de Québec organisé par la Société dentaire des Trois-Rivières aux Trois-Rivières, à l'Hôtel St-Maurice

Programme

Jeudi, le 28 mai — Inscription

9.30 - 11.30 hres a.m.	Cliniques de table
2.30 - 4.30 " p.m.	Cliniques
	Tournoi de golf

Vendredi, le 28 mai — Séminaire en chirurgie buccale donné par le docteur W. Harry Archer, de l'Université de Pittsburgh, Penn.

9.00 - 9.45 hres a.m.	"Exodontie ordinaire"
9.50 - 10.35 hres a.m.	"Dents incluses et extractions difficiles"
10.40 - 11.30 hres a.m.	"Chirurgie pré-prothétique"

Déjeuner

2.30 - 3.15 hres p.m.	"Traitement chirurgical des kystes de la cavité buccale"
3.20 - 4.10 hres p.m.	"Traitement chirurgical des tumeurs bénignes de la bouche"
4.15 - 5.00 hres p.m.	"Traitement des infections buccales"

Samedi, le 30 mai — Séminaire en endodontie donné par le docteur Ralph Sommer, de l'Université de Michigan.

Diagnostic
Interprétation radiologique
Pathologies de la pulpe, etc. . . .

Samedi soir: Dîner et danse

N.B. Pour renseignements supplémentaires, inscription et réservation de chambres, s'adresser au docteur René Millette, 1293 rue Hart, Trois-Rivières.

NOUVELLES DE L'ASSOCIATION

Mémoire concernant les déclarations fédérales d'impôt sur le revenu des dentistes

Pour la gouverne des praticiens exerçant la profession de dentiste et en vue d'uniformiser les renseignements à la Division de l'Impôt du Ministère du Revenu national dans les déclarations annuelles d'impôt sur le revenu, on a cru opportun d'exposer les renseignements suivants:

Revenu

1. Le dentiste devrait maintenir un état précis de ses recettes provenant d'honoraires professionnels ou de revenus de placements. Cet état doit être clair, pour qu'il soit possible de le vérifier facilement en regard de la déclaration produite. A cette fin, il conviendrait de tenir des livres de comptabilité et les garder jusqu'à ce que le Ministère national donne une permission écrite d'en disposer.

Dépenses

2. Sous le chapitre des dépenses, il importe de tenir à jour, à l'appui des frais invoqués, un état des comptes suivants sur des registres que l'on peut vérifier en tout temps:

- (a) Fournitures dentaires et autres du même genre;
- (b) Aide de bureau, infirmière, domestique et comptable, frais de blanchissage et primes d'assurance contre négligence et incurie. (A remarquer que la loi de l'impôt sur le revenu n'accorde aucune déduction à l'égard du traitement versé par le mari à son épouse ou vice versa. Si un tel montant est payé, il doit être rajouté au revenu);
- (c) Dépenses de téléphone encourues pour usages de la profession;
- (d) Honoraires de aides-praticiens; On doit fournir, au plus tard le dernier jour de février de chaque année, les noms et adresses des aides à qui l'on a versé des honoraires, en se servant de la formule d'impôt sur le revenu, dite Formule T4, que l'on peut obtenir en s'adressant au bureau de district de l'impôt sur le revenu. (Ne pas confondre cette formule avec la déclaration de revenu à l'usage des particuliers, Formule T1, à produire au plus tard le 30 avril de chaque année);
- (e) Loyers payés; Il faut fournir le nom et l'adresse du propriétaire du local (de préférence) ou de son mandataire. (Voir (g));
- (f) Frais de port et de papeterie;
- (g) Dépenses proportionnelles des dentistes exerçant leur art dans leur résidence;

- (a) Le dentiste en étant le propriétaire;

Lorsque le dentiste exerce son art dans une maison qui lui appartient et dans laquelle il a sa résidence, il est accordé une déduction proportionnelle des dépenses de la maison pour le cabinet, le laboratoire, le bureau et la salle d'attente, en tenant compte de l'espace total de la résidence. Les dépenses visées comprennent les taxes, l'éclairage, le chauffage, l'assurance, les réparations et l'intérêt sur hypothèque (donner le nom et l'adresse du créancier hypothécaire). Remarque en ce qui concerne la dépréciation, voir l'item 2 (m).

- (b) Le dentiste en étant le locataire;

Le prix du loyer est réparti de même que le coût du chauffage et celui de l'éclairage, si payés par le dentiste; le propriétaire du local acquitte toutes les autres dépenses mentionnées ci-dessus (a).

Les déductions ci-haut mentionnées ne doivent pas dépasser le tiers des dépenses totales de la maison ou du loyer à moins qu'il ne soit prouvé qu'une déduction supérieure devrait être accordée pour des fins professionnelles.

- (h) Frais divers (non mentionnés ailleurs) Les frais portés à ce compte doivent être susceptibles d'analyse et accompagnés de preuves à l'appui.

Les réclamations faites par suite de dons consentis aux œuvres de charité sont admissibles à concurrence de 10 p.c. du revenu net, provenant de toutes sources, à condition que les reçus en soient soumis au bureau de district de l'impôt sur le revenu. C'est là une stipulation de la loi.

On admet, à titre de frais, les contributions annuelles payées au Collège dont relève l'autorisation d'exercer la profession et les cotisations à titre de membre d'une association, si ces déboursés sont mentionnés dans la déclaration.

Les frais occasionnés par la fréquentation des cours postsecondaires ne sont pas admis.

- (i) Frais incidents;

Les versements d'intérêts en raison d'emprunts sur titres déposés en nantissement ne peuvent être imputés qu'aux revenus provenant de placement et non au revenu dérivé de l'exercice de la profession.

(j) La taxe d'affaires est admise à titre de dépense, mais non les impôts sur le revenu;

(k) Dépenses d'automobile;

On admet les dépenses de taxis et d'automobile faites pour gagner un revenu dans l'exercice de sa profession, quand le dentiste doit se rendre au domicile de ses clients. Les frais de transport du dentiste entre sa maison et son bureau ne sont pas déductibles.

(l) Dépenses de congrès;

Selon un amendement à la loi approuvé en 1956 et s'appliquant pour 1955 et les années subséquentes, un contribuable peut déduire de son impôt des dépenses faites par lui-même pour assister à pas plus de deux congrès par année; ces congrès doivent être organisés par un organisme professionnel dont il fait partie et porter sur un domaine d'affaires ou une profession qu'il exerce lui-même.

Pour justifier ses déductions pour ses dépenses de congrès, un contribuable doit déclarer dans un document attaché à son rapport d'impôt:

(1) les dates du congrès;

(2) le nombre de jours où il a été présent à l'aide d'un certificat de présence ou d'une attestation raisonnable de l'organisme responsable du congrès;

(3) les dépenses imputables à ce congrès, en les classant séparément, telles (a) frais de transport; (b) repas et (c) chambre d'hôtel; au

moins pour celles-ci, le contribuable doit garder des reçus et être en mesure de les produire, si on les lui demande.

Ceux qui tirent leur revenu de salaires ne peuvent pas déduire de telles dépenses d'après la section 5 de la Loi de l'Impôt sur le Revenu.

(m) Dépréciation;

La page quatre de la déclaration d'impôt sur le revenu, formule T1 Générale, explique les modalités de dépréciation à réclamer en vertu de la Partie XI.

La méthode à employer pour calculer la dépréciation aux fins de l'impôt sur le revenu est semblable à celle de l'an dernier; vous ne devriez pas avoir de difficulté, si vous disposez d'une copie de la déclaration de l'an dernier.

Après avoir déduit l'allocation de l'an dernier, vous reportez tout simplement le solde obtenu pour chaque catégorie. Ajoutez à ce chiffre le coût des nouveaux appareils achetés et déduisez le produit des dispositions de biens dans chaque catégorie. Le taux que vous voulez utiliser jusqu'à concurrence du taux maximum (voir ci-dessous) est appliqué au nouveau solde de chaque catégorie; c'est ainsi que vous établissez la dépréciation que vous pouvez réclamer, cette année.

Pour votre gouverne, nous reproduisons ci-dessous le tableau qui figure à la page de la déclaration d'impôt sur le revenu.

Cédule

(1) Numéro de catégorie	(2) Total du capital non déprécié au début de 1955 (col. 10 du rapport de 1954)	(3) Coût des acquisitions en 1956	(4) Revenus provenants des ventes de vieux matériel
(5) Total du capital non déprécié avant l'allocation de 1955 (col. 2, plus 3, moins 4)	(6) Taux %	(7) Allocation sur le coût du capital pour 1956	(8) Total du capital non déprécié à la fin de 1956 (col. 5, moins col. 7)

Voici les taux maxima applicables aux catégories de matériel, qui intéressent davantage les dentistes;

Actif	Catégorie	Taux Maximum
Matériel dentaire y compris les instruments dont le coût s'établit à moins de \$50.00	12	100/p.100
Instruments dont le coût s'établit à moins de \$50.00	12	100/p.100
Fournitures et accessoires de bureau	8	20/p.100
Edifice en pans de bois (bureau ou résidence utilisée à la fois comme logement et bureau)	6	10/p.100
Edifice en briques (bureau ou résidence utilisée à la fois comme logement et bureau)	3	5/p.100

Les instruments dont le coût s'établit à moins de \$50.00 chacun sont compris dans la catégorie 12 et bénéficient d'un taux maximum d'allocation de 100 p.100. Ces instruments ne doivent pas être portés au compte de dépenses, mais doivent être inscrits à titre d'addition dans la colonne 3 du tableau.

Lorsqu'un dentiste exerce sa profession dans une maison dont il est propriétaire et dans laquelle il a sa résidence, l'allocation peut être réclamée comme il est indiqué ci-dessus sur une fraction du coût de la résidence à l'exclusion du terrain. Par exemple, si la résidence est un édifice en briques d'une valeur de \$12,000 et qu'un tiers de l'espace sert de bureau, le dentiste peut évaluer à \$4,000 l'espace qu'il affecte à l'exercice de sa profession et y appliquer le taux de cinq pour cent, ce qui lui donnera la dépréciation maximum qui lui est accordée pour la première année.

Pour de plus amples renseignements à ce sujet, veuillez vous reporter aux règlements ou consulter votre bureau de district de l'impôt.

Païement de l'impôt

3. Païement d'impôt. Les individus, dont plus de 25% du revenu provient de sources autres qu'un salaire ou d'honoraires, doivent payer leur impôt annuel en versements trimestriels durant l'année courante, aux dates suivantes, 31 mars, 30 juin, 30 septembre et 31 décembre.

Dentistes à salaire

4. La loi de l'impôt sur le revenu permet certaines déductions du salaire. Ces déductions comprennent des dépenses de voyage,

les cotisations professionnelles annuelles, le loyer d'un bureau, des salaires à des assistants ou des remplaçants et des fournitures utilisées directement dans l'exercice des fonctions. Il faut toutefois certaines conditions pour l'allocation de ces dépenses et sans entrer dans les détails précis de la loi, en voici les points principaux:

- (a) Il faut que ces dépenses aient été faites en rapport avec l'exercice d'une charge ou d'un emploi.
- (b) Il faut que, d'après les termes de son contrat, l'employé soit obligé de faire ces dépenses lui-même.
- (c) Pour déduire des frais de voyage, il faut que l'employé soit tenu ordinairement d'exécuter les fonctions de son emploi ailleurs qu'au lieu d'affaires de son employeur. Les dépenses de voyage encourues par le dentiste pour se rendre de sa résidence à son bureau ne sont pas déductibles.

Revenu d'une société professionnelle

5. Des dépenses encourues par un associé et non chargées à la société peuvent être déduites du revenu de l'associé. Toutefois, il faut que l'associé puisse établir clairement ces dépenses, montrer pourquoi elles n'ont pas été chargées à la société et prouver qu'elles étaient nécessaires aux revenus de la société.

Relevé sur l'exercice dentaire

On attache de plus en plus d'importance aux statistiques touchant la dentisterie canadienne. L'Association dentaire canadienne a comme fonction d'amasser ces renseignements pour être en mesure de fournir des chiffres qui se rapportent à certaines phases de la dentisterie; parmi ces statistiques, les plus importantes sont celles qui s'occupent de l'économie de la profession dentaire.

Les autorités du gouvernement et d'autres, à plusieurs reprises, ont consulté les données du relevé sur l'économie de l'exercice dentaire qui a été entrepris en 1953. L'Association entreprend une nouvelle enquête en 1959 et vers le 15 février tous les membres de l'Association ont reçu un questionnaire qui leur demande des renseignements sur leurs activités en 1958. Ces renseignements, une fois compilés, aideront l'Association à orienter ses activités pour l'avenir.

Un dentiste de Winnipeg élu député à Ottawa

Le docteur Joseph Slogan, de Winnipeg, a été élu député du comté de Springfield du Manitoba, au cours d'une élection complémentaire tenue en décembre dernier. Le docteur Slogan est conservateur. Un autre jeune dentiste, le docteur Joseph Lesniak, a été défait comme candidat conservateur dans le comté de Trinity, à Toronto. Les deux con-

frères, Lesniak et Slogan, étaient de la même promotion, en 1956, de la faculté dentaire de l'Université de Toronto.

Statistiques de l'impôt sur le revenu

La moyenne des revenus des dentistes du Canada, qui ont soumis des formules d'impôt sur le revenu pour 1956, est de \$9,230; en 1955, cette moyenne était de \$8,554. Le montant total de l'impôt versé par les dentistes représente 0,28% de l'impôt versé par tous les contribuables du pays. Les dentistes ont payé en impôt la moyenne de \$1,452.

Ces chiffres sont fournis par les "Statistiques de l'Impôt," qui est une publication du Ministère du Revenu national.

	nombre
Ingénieurs consultants et architectes	2,097
Médecins et chirurgiens	11,868
Avocats et notaires	6,142
Comptables	3,071
Dentistes	4,296
Courtiers	79,846
Contribuables en général	3,908,176

le faire parvenir au Secrétariat de l'Association.

Les dentistes d'Ontario ont payé 49,8% de l'impôt payé par tous les dentistes du Canada. Environ 42% de tous les dentistes canadiens exercent en Ontario. 24,7% des dentistes ont des revenus entre \$10,000 et \$15,000; 11,2% avaient des revenus plus élevés et 64,1% des dentistes ont rapporté des revenus inférieurs à \$10,000.

On obtient ces renseignements en consultant le tableau intitulé "Contribuables canadiens par Occupations," qui donne des statistiques par ordre de la moyenne de l'impôt payé. Voici une partie de ce tableau qui cite entre parenthèses les montants pour 1955.

	moyenne des revenus (1955)		
\$13,640	(14,007)	\$3,312	(3,484)
13,053	(12,166)	2,729	(2,558)
12,617	(12,243)	2,905	(2,800)
9,940	(9,315)	1,831	(1,741)
9,230	(8,554)	1,452	(1,356)
6,021	(6,224)	882	(992)
3,573	(3,535)		

Visites du président

Le docteur George M. Dewis, président de l'Association dentaire canadienne, a visité et adressé la parole à divers endroits de l'est du pays aux dates suivantes:

Charlottetown, I.-du-P.-E., le 27 janvier.
Halifax, Nouvelle-Ecosse, le 28 janvier.
Cornerbrook, Terre-Neuve, les 29 et 30 janvier.
Québec, le 2 février.

Célébration du centenaire de l'A.D.A., à New York

On vient d'annoncer que le comité qui s'occupe du logement pour le Congrès du Centenaire de l'A.D.A., qui aura lieu à New York, vient de s'installer dans cette ville. Ce comité commence tôt son travail, parce qu'il prévoit que cette manifestation attirera le plus grand nombre de personnes jamais vu à un congrès dentaire. Environ cinquante pays enverront des représentants aux réunions de la Fédération dentaire internationale, qui auront lieu en même temps, c'est-à-dire du 14 au 18 septembre 1959.

Dans la livraison du Journal de l'Association dentaire canadienne, janvier 1959, il y a une formule pour s'inscrire au Congrès (page 35). On peut s'inscrire en écrivant au A.D.A. Housing Bureau, P.O. Box 5440, Chicago 7, Illinois.

On demande des copies du Journal

La bibliothèque de l'Association manque de livraisons de mai 1958 du Journal de l'Association dentaire canadienne. Ceux qui peuvent se passer de ce numéro sont priés de

Organisation d'une série de conférences

Le Collège américain des Dentistes a organisé une série de conférences, qui seront données dans chacune des facultés dentaires du Canada et des Etats-Unis. Chaque année, les facultés recevront la visite d'un conférencier, qui donnera une causerie aux élèves sur les relations humaines. Ces conférences ont commencé l'automne dernier.

Cette année, un autre sujet sera choisi.

Deux Canadiens prennent part à cette série de conférences. Le docteur Harry Thompson, membre honoraire de l'Association dentaire canadienne, a donné des conférences à Indianapolis, Chicago (3), à Minneapolis, Milwaukee et Winnipeg. Le docteur P. G. Anderson, ancien président de l'Association dentaire canadienne, a donné sa conférence à Boston (2), New York (2) et à deux nouvelles facultés dans le New Jersey. Les réactions à ces conférences, selon des doyens des écoles, ont été enthousiastes.

Dentiste nommé à la Défense civile

Les dernières nouvelles à ce sujet ne mentionnaient pas clairement que le docteur Hugh R. MacLaren, de la Division d'Hygiène dentaire du Ministère de la Santé nationale et du Bien-Etre social, avait assumé ces responsabilités au nom de sa division. En effet, on a confié à la Division d'Hygiène dentaire le soin de s'occuper des questions dentaires qui relèvent de la Défense civile.

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Costen's Syndrome or TMT Arthritis

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INTRODUCTION

Costen's syndrome is a pathological entity which is inescapably associated with dentistry. The dental profession, therefore, should be fully aware that the dentist plays a major role not only in the prevention of this disease but also in its successful treatment. It is unfortunate, however, that dentistry may also be directly responsible for producing the disease if the dentist concerned is unaware that his professional services may be the causative factor.

NOMENCLATURE — COSTEN'S SYNDROME OR TMT ARTHRITIS

In the opinion of the author Costen's syndrome should not be referred to as a syndrome but, correctly, termed temporomandibular traumatic arthritis or briefly, TMT arthritis. The complexus of symptoms noted by Costen which resulted in this pathological condition being called a syndrome, to mention a few: mild catarrhal deafness associated with tinnitus and dizzy spells, pain in the affected temporomandibular joint, varying degrees of

intensity and distribution of neuralgias involving the head and neck, disturbances of the salivary glands and all clinical manifestations attributable to direct extension of inflammatory processes from the injured temporomandibular joint to the adjacent anatomical structures, is not a true term naming the disease.

Therefore in order to stress the actual pathological condition rather than the innumerable symptoms which may change not only from day to day in the same patient but also from patient to patient the author will from now on refer to this condition as temporomandibular traumatic arthritis and, for the sake of brevity, TMT arthritis.

In the latest edition of Oral Pathology, Dr. Kurt Thoma has termed this condition chronic traumatic arthritis, however, the author has purposely omitted the word chronic from his nomenclature because cases have been treated by him which presented all the symptoms but were caused by an acute inflammatory reaction due to trauma of the affected joint. Many of these cases involved pilots and aircrews of supersonic jet planes who had withstood the impact of more than five times the gravitational force. True, in the experience of the author, many of these cases had not been diagnosed

until the acute condition had passed into the chronic stage. As in the jet pilots other cases gave a history of the condition having a sudden onset immediately after multiple or difficult dental extractions. In particular, as is often stressed by Dr. J. P. Coupland of Ottawa, the surgical removal of an impacted mandibular third molar had resulted in an acute inflammation of the joint because the joint had not been protected from injury during the operation.

The author feels justified, therefore, in dropping the word chronic from the nomenclature used by Dr. Thoma in order to cover both the acute and chronic stages of this disease. Of course, if particular reference is to be made as to whether the condition is acute or chronic, TMT arthritis should be modified and acute TMT arthritis or chronic TMT arthritis used.

ADJACENT AND RELATED ANATOMICAL AND FUNCTIONAL FACTORS

The joint and capsule

The temporomandibular joint is a synovial joint surrounded by a strong fibrous capsule which is attached superiorly to the margin of the articular surface of the glenoid fossa of the temporal bone, and

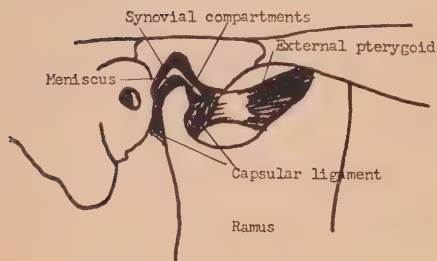


FIG 1 a

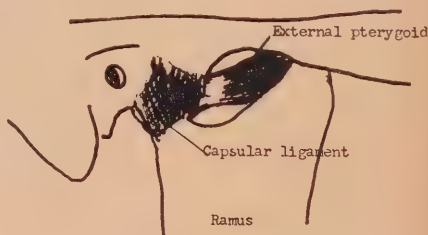


FIG 1 b

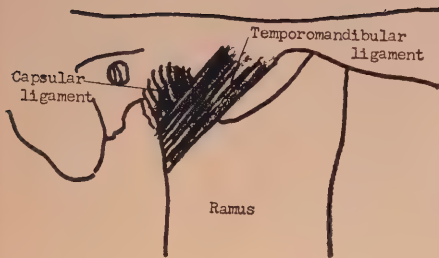


FIG 2

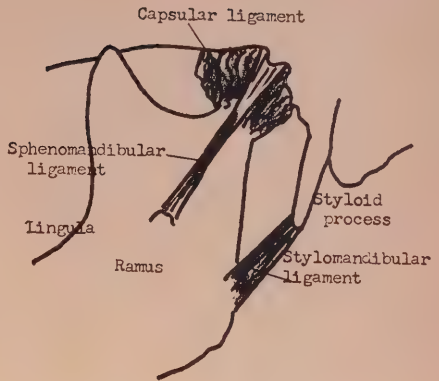


FIG 3

inferiorly the fibres are attached to the neck of the condyle of the mandible. The cavity between the head of the condyle and the glenoid fossa is divided into two synovial compartments by a cartilagenous meniscus whose border is attached throughout its periphery to the fibrous capsule. (Fig. 1)

The temporomandibular ligament

The capsule on its lateral aspect is heavily reinforced by a thick fibrous band, the temporomandibular ligament, which is attached superiorly to the lateral surface of the tubercle of the articular eminence of the zygomatic process of the temporal bone. Inferiorly the fibres are attached to the lateral surface of the neck of the condyle of the mandible. The oblique course of the fibres while the joint is at rest should be noted. (Fig. 2)

The spheno- and stylomandibular ligaments

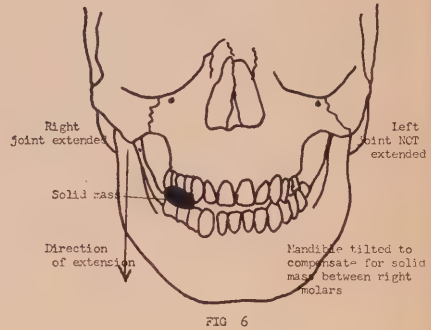
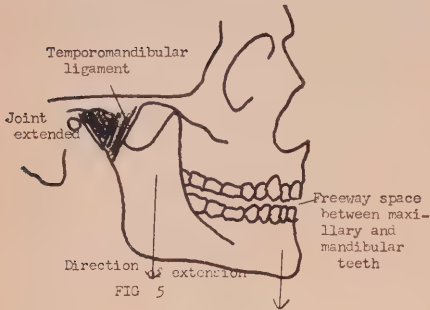
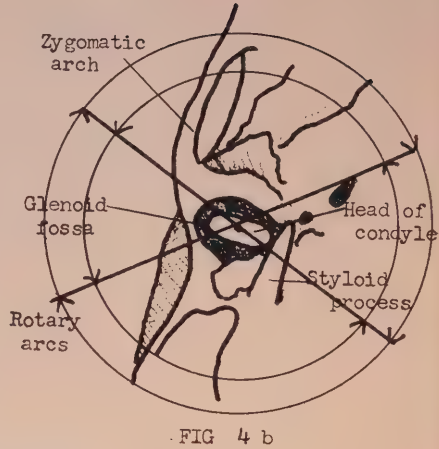
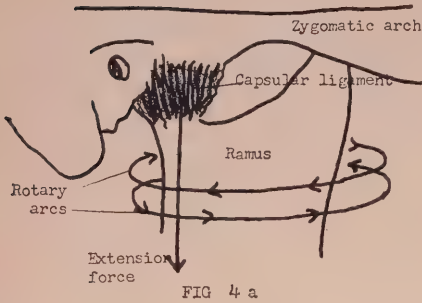
Two accessory ligaments, the sphenomandibular and the stylomandibular ligaments, play an important role. The sphenomandibular ligament arises superiorly from the spine on the inferior surface of the sphenoid and

is attached inferiorly to the lingula on the medial aspect of the ramus of the mandible, close to the mandibular foramen. The stylomandibular ligament arises posteriorly from the styloid process of the temporal bone and is attached anteriorly to the posterior border of the ramus of the mandible just above the angle. (Fig. 3)

MOVEMENTS OF THE JOINT AND MANDIBLE

The movements of this joint are without a doubt the most complex of all the joints of the human body, and few have really understood them because of the varied and contradictory descriptions found in anatomy and prosthodontic text-books. In order to visualize how the joint may be damaged through trauma, the reader should be fully conversant with the following factors governing the movement of this very complex joint:

(a) The capsule should be looked upon as a fibrous sack which is completely loose. This loose capsular ligament enables the joint to move freely in any direction. In other words the head of the condyle can move in the glenoid fossa with just as much freedom as the dentist's pestle moves in the mortar when he is mixing



amalgam. The motion, however, is not so exaggerated and the actual head of the condyle does not grind in the concavity of the glenoid fossa as does the pestle in the mortar. This means that in the joint there is always maintained a space between the head of the condyle and the fossa to provide adequate room for the delicate contents of the joint. (Fig. 4)

When the mandible is at rest and there is a normal freeway space between the maxillary and mandibular teeth, the cap-

sule allows the head of the condyle to be suspended or, in other words, the joint is extended thus reducing the constant pressure on the contents of the joint (Fig. 5). Furthermore, when the joint is extended during the mastication of a solid mass which is being triturated between the maxillary and mandibular molars, this action enables solid masses of unequal size between left and right sides of the dental arch to be masticated by the slight tilting of the mandible due to the unequal extension of left or right joint. (Fig. 6)

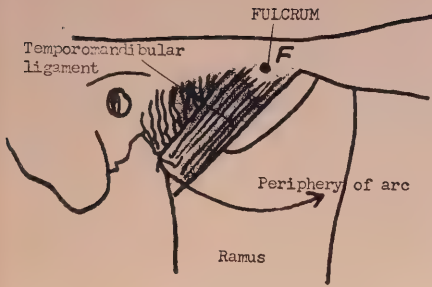


FIG 7 a

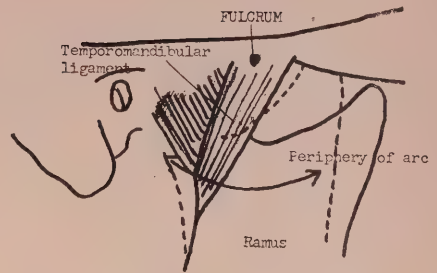


FIG 7 b

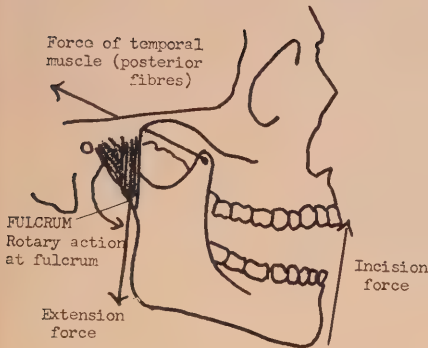


FIG 8

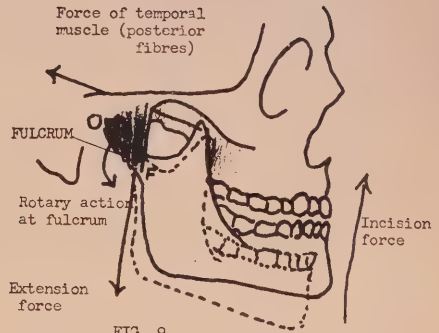


FIG 9

(b) The temporomandibular ligament by virtue of its non-elasticity, direction of its fibres, and position allows the neck of the condyle to swing in a rotary arc whose centre is the articular eminence of the zygomatic arch, and the periphery is the neck of the condyle (Fig. 7). It also assists in the incisive action by creating a fulcrum at the neck of the condyle when the mandible is in a protrusive position (Fig. 8). Through the strong traction of the posterior fibres of the temporal muscle

inserted into the coronoid process, the mandible is rotated on an axis whose centre is the neck of the condyle (Fig. 9). Clinically this explains why the patient with a fractured neck of the condyle loses much or all of his incisive force, and is often obliged to use the premolars for this incisive act.

(c) The sphenomandibular ligament by virtue of its non-elasticity, direction of its fibres and position permits the ramus to swing in a rotary arc whose cen-

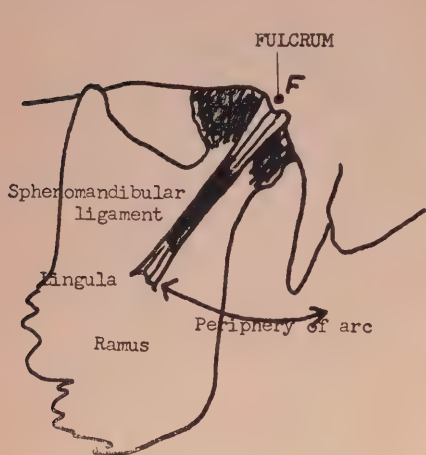


FIG 10 a

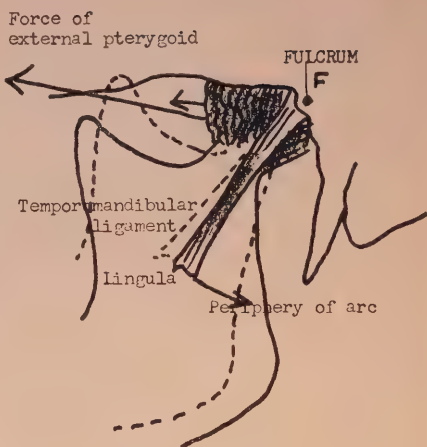


FIG 10 b

tre is the spine on the inferior surface of the sphenoid and the periphery of the arc is the lingula at the mandibular foramen (Fig. 10). In conjunction with the action of the external pterygoid muscle this ligament opens the mouth.

(d) The stylomandibular ligament by virtue of its non-elasticity, direction of its fibres, and position permits the ramus to swing in a rotary arc whose centre is the tip of the styloid process, and the periphery is the ramus. This ligament's main function, in conjunction with the capsular ligament and its other accessory ligaments, is to limit the protrusive movement of the mandible and the extension of the joint. (Fig. 11)

It will be readily understood why the complexity of the mandibular movements have not only baffled many but have also been responsible for endless theories propounded by prosthodontists on articulation in relation to movements during mastication. This also proves the inaccuracy of prosthetic articulators on the market that attempt to simulate such movements.

In fact the concept of the condylar path theory should either be modified or completely discarded. The reader should remember and is asked to visualize the combination of movements governed by three separate rotary arcs as above explained, and to this complex combination must be added the factor of the changing position of the head of the condyle in relation to the glenoid fossa, which in itself causes these three arcs to change their combined direction.

MUSCULATURE

The force which the muscles of mastication exert is well known to all readers, and we have only to recall the lady in the circus hanging from a strap by her teeth, and the epileptic clenching the teeth, to estimate the great force which could be transmitted by these muscles to the joint and its contents. Fortunately the joint in normal functional mastication does not bear the full force of biting, otherwise the delicate synovial membranes and

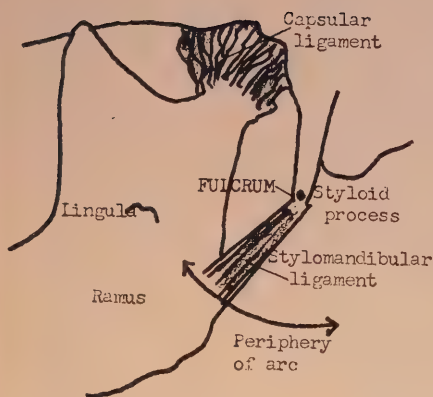


FIG 11 a

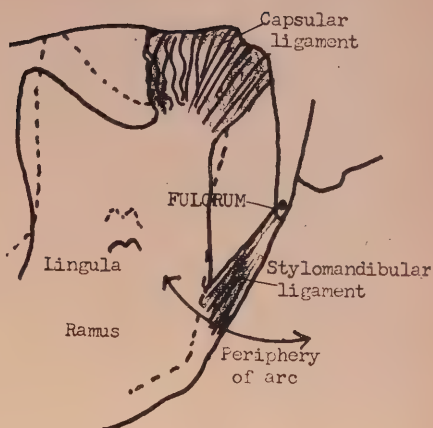


FIG 11 b

meniscus would be soon completely crushed.

In considering the muscles in relation to TMT arthritis the reader is asked to remember that these muscles exert adequate force for efficient mastication, but in order to do this they provide the complex coordinated movements of the mandible during normal and abnormal function. At times in normal or abnormal function these muscles may exert tremendous force. Furthermore they act with amazing coordination so that when one set of muscles is called into action to provide the primary biting force, the other sets of muscles stabilize the mandible on its fulcrum wherever it may be established at that particular moment. In other words they also provide added support to the accessory ligaments, as they establish the ever-changing fulcra during the act of mastication and incision. Then, at the critical moment, they come into action to add to the sum total of biting force of the primary biting set of muscles.

THE JOINT IN RELATION TO THE DENTAL ARCHES

When a solid mass is being masticated between the molars the normal temporomandibular joint is extended not impacted. The reader has only to put a small pad between the posterior teeth and bite hard to demonstrate and establish this fact. The joint will be found to be extended and, in fact, this is the principle governing the treatment for relief of pressure of the joint in cases of effusion. By the same reasoning it will be readily understood that the head of the condyle comes to rest with adequate space between it and the glenoid fossa when the normal maxillary and mandibular arches are in centric occlusion, thus protecting the contents of the joint. (Fig. 12)

In normal function, therefore, the head of the condyle should not be impacted against either the glenoid fossa or the tympanic plate of the temporal bone, otherwise the meniscus soon atrophies and

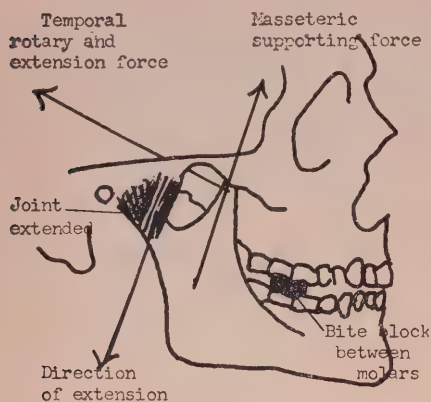


FIG 12

the synovial membranes develop pressure ulcers. This should be borne in mind by the prosthodontist when registering centric occlusion, and it will be appreciated that it is better to err towards a high bite on the posteriors in order to extend the joint, rather than to close the bite and thus crush the contents of the joint. This, however, must not be interpreted by the reader as the author advocating a high bite, on the contrary, he is of the opinion that every dentist must ensure that the centric position is exact when registering the bite.

In the opinion of the author, the correct centric occlusion when both maxillary and mandibular bite blocks are in contact is such that the temporomandibular joint is extended sufficiently just to remove the pressure from the meniscus and synovial membranes of both left and right joints: this is true centric occlusion. Furthermore when this is correctly registered and the mandible is at rest and the muscles of mastication relaxed, the joint will become extended more, so that two to three millimeters of freeway space will be established between the maxillary and mandibular occlusal surfaces of the arches.

This condition of rest is most important in maintaining the health of the joint, because it is then that repair processes of mending the wear and tear of tissues inside the joint take place.

ADAPTABILITY OF THE JOINT

All joints in the body are adaptable to slow moderate changes. The orthodontist uses this important principle in his specialty by using moderate forces to stimulate bony changes around the synarthrotic joints, commonly known as the periodontal membranes, between the roots of the teeth and the bony sockets of the alveoli. Fortunately the temporomandibular joint is no exception otherwise more traumatic conditions of this joint would inevitably result.

This explains why the temporomandibular joint will tolerate slow moderate changes taking place in the dental arches without deteriorating into a traumatic arthritis. However, the words moderate and slow are emphasized. It should be noted that even if the changes in the dental arches are moderate and slow, trauma of the joint will result if all the biting force is able to be transmitted to the joint continuously by such changes or, in other words, the joint is never in the position of rest.

ADJACENT ANATOMICAL STRUCTURES

If the reader is to understand the syndrome which Costen described he must be conversant with the surgical field adjacent to the temporomandibular joint. This knowledge will enable him to predict readily what anatomical structures are liable to become involved in any extension of inflammatory processes direct from the joint and thus produce the complexus of symptoms. These adjacent structures are:

(a) The external auditory meatus and its ceruminous glands which are separated from the joint by only very thin cartilage or a very thin bony plate, the tympanic plate of the temporal bone.

(b) The contents of the middle ear with its tympanic membrane, ossicles, tensor and stapedia muscles, and the membrane of the fenestra vestibuli (ovale). The direct opening from the middle ear to the mastoid air cells, the air cells of the Eustachian tube, the tube itself with its abundance of mucous glands, the chorda tympani and Jacobson's tympanic nerve plexus.

(c) The contents of the inner ear with the membranous labyrinth in the bony vestibule and the bony cochlea. The semi-circular canals, all the contents of which are separated from the middle ear only either by a thin membrane or a very thin wall of bone.

(d) The facial nerve which lies close to the wall of the middle ear and the mastoid air cells.

(e) The auriculo-temporal nerve and its cutaneous branches to the external auditory meatus, the anterior part of the tympanic membrane, the tragus of the pinna, and a small area of the pinna itself.

The auriculo-temporal nerve also gives off branches to the temporomandibular joint and its contents.

This nerve also derives its secretory fibres from the otic ganglion which also supplies the chorda tympani with its secretory fibres. These secretory nerves pass to the parotid gland via the auriculo-temporal route, and to the submandibular and sublingual glands via the chorda tympani route of the lingual nerve.

Secretory fibres are also supplied to the mucosal lining of the middle ear, the Eustachian tube, as well as the ceruminous glands of the auditory meatus, by the route of the auriculo-temporal cutaneous branches.

As the auriculo-temporal nerve is a branch of the third division of the trigeminal nerve, any combination of referred pain is possible throughout the distribution of the fifth cranial nerve, namely, the head and neck, including the tracts of the fifth nerve in the central nervous system and its ramifications to the sensory cortex

and, also, the cervical segments related to the fifth nucleus as far as the third cervical nerve.

CAUSES OF TMT ARTHRITIS

By applying the factors already propounded by the author, the reader can predict how a traumatic force may be transmitted to the temporomandibular joint causing injury to the joint and its contents. However in order that no causative factor may be overlooked, they are innumerable as follows:

1. Crushing the joint contents by impaction of the head of the condyle into the glenoid fossa by applying excessively heavy force, namely:

- (a) A heavy force directed towards the joint with possible fracture of the mandible, such as automobile accidents, boxing, etc.

- (b) Surgical removal of the mandibular third molar without adequate precaution to prevent traumatic force being transmitted in the direction of the joint.

- (c) Careless handling of patient by anaesthetists, particularly if the tube is in the cuspid-premolar area.

- (d) Abnormal use of the mandible, such as the show-off who removes bottle tops with teeth.

- (e) Occupational hazards, such as jet pilots exposed to heavy gravitational forces, deep-sea divers or submariners clenching hard the oxygen airway mouth-piece, etc.

2. Loss of posterior teeth thus creating a fulcrum in the cuspid-premolar region, so that muscles of mastication when in contraction and the teeth are in occlusion the head of the condyle is impacted into the glenoid fossa. (Fig. 13)

3. Attrition or suppression of posterior teeth without the necessary compensating attrition or suppression of cuspids or premolars, thus shifting the fulcrum forward to the cuspid-premolar region.

4. Dental restorations in the cuspid-

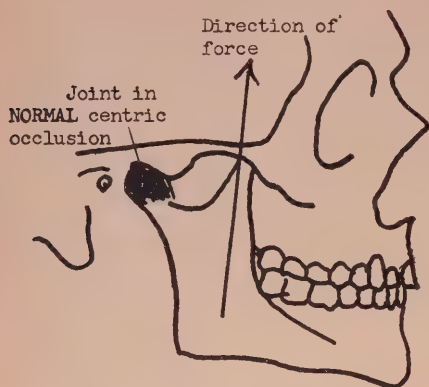


FIG 13 a

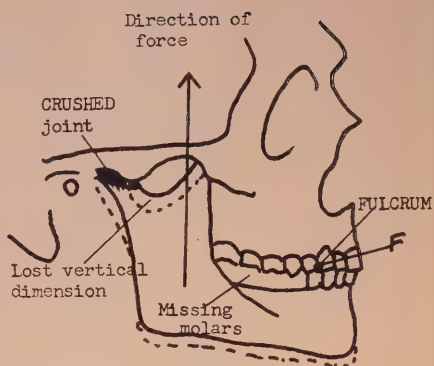


FIG 13 b

premolar region which open the bite, namely:

(a) Hard fillings, bridges or pontics which do not wear down to compensate for attrition or suppression of molars.

(b) Open bite or high spots in any dental restoration in the cuspid-premolar region.

(c) Incorrect registration of centric occlusion of partials, particularly free-end saddle partials.

5. Unequal resorption of ridges in the edentulous patient wearing complete dentures.

6. Ill-fitting prosthetic appliances.

7. Malocclusion.

DIAGNOSIS OF TMT ARTHRITIS

It is very important to diagnose this condition early if irreparable damage to the joint is to be avoided. Unfortunately referred pain from the affected joint may be so intense that the unwary may be tempted to "do something for the patient" to relieve the pain, without making sure

that this "doing something" will not aggravate the condition rather than alleviate it. Very often odontalgia or even tic douloureux are incorrectly diagnosed, as a result valuable teeth are sacrificed and even a Gasserian resection may be contemplated. The loss of teeth may aggravate the condition by throwing more stress on the affected joint, while a Gasserian resection is a major surgical tragedy.

The reader should remember that diagnosis is dependent on the following observations:

(a) The movement of the affected joint is limited. This limitation may be severe enough to prohibit all movement of the mandible (trismus), while the lesser limitation may be barely discernible to the untrained eye. One should look for an irregular movement of the mandible which follows an S-shaped path of excursion when the patient opens the mouth without attempting to do a lateral excursion. The affected joint also seems to lag behind the normal one when the heads of the condyles are moved anteriorly by the contraction of the external pterygoids.

(b) The affected joint is more tender

to digital pressure in comparison with the normal joint.

(c) A series of diagnostic local anaesthetic blocks should be carried out to pinpoint the origin of the pain. If the pain originates solely from traumatic occlusion and affecting only the periodontal membranes of the involved teeth, blocking the appropriate dental nerve will instantly abolish all pain. Not so in the case of TMT arthritis, for pain will not be abolished until the auriculo-temporal nerve is blocked.

(d) Grinding the teeth during sleep is often but not always a sign of TMT arthritis.

(e) The presence of one or more predisposing factors, as described under the causes of TMT arthritis, must be observed before a final diagnosis can be made.

(f) The predisposing causes must be correlated to the onset of the disease, and other such factors.

(g) When the joint is extended by placing a small bite-block between the posterior teeth and the patient instructed to clench on this bite-block, some small measure of relief is experienced by the patient, unless there is excessive effusion.

(h) Radiographs may be used to confirm any changes in the joint.

TREATMENT

Palliative and conservative treatment should be commenced as soon as a diagnosis is made to lessen the risk of irreparable damage to the joint.

Palliative treatment

(a) The administration of pain-reducing drugs

(b) If effusion is excessive, drain off some of the fluid by aspiration.

(c) If effusion is moderate relief may be obtained by placing a bite-block between the posterior teeth and immobilizing the mandible with intermaxillary elastics.

(d) Apply cold compresses to the joint if they provide relief.

Conservative treatment

(e) Remove the cause and any predisposing factors, namely:

i. Restore the correct occluso-articular relationship.

ii. Where necessary insert overlays to compensate for the loss of vertical dimension of the posterior teeth; in particular where attrition or suppression is greater than in the cuspid-premolar region.

iii. Replace poorly fitted prosthetic appliances with correctly constructed ones, bearing in mind the exact centric occlusion.

iv. Remove all high spots in the cuspid-premolar region, and balance the occlusion.

When all conservative procedures fail to resolve the inflammatory process in the joint, which is an indication that the meniscus and the synovial membranes have suffered irreparable damage, radical surgery is then indicated as follows:

(a) Menisectomy.

(b) If during the operation for menisectomy gross changes in the joint are seen, athrotomy is indicated.

PREVENTION

TMT arthritis is preventable and the onus for the prevention rests very largely with the dentist. He should, therefore, be fully aware of his responsibility for maintaining correct centric occlusion of his patients. In order to do this he must be able to detect all predisposing factors and know how to eliminate them by instituting the necessary corrective conservative treatment. Should other factors requiring treatment outside his professional field be found it is his responsibility to refer the case immediately to the proper consultant for further treatment.

The following preventive measures are recommended to the dental profession:

(a) The occlusion should be regularly checked making sure that the cuspid-premolar regions are free from high spots. Particular attention should be given the patient wearing either partials, fixed bridges, or crowns involving the cuspid-premolar region.

(b) Partial dentures should be inserted to restore the loss of molars, especially if a heavy bite is present in the cuspid-premolar regions.

(c) Greater care should be exercised in registering accurate bites in centric occlusion. This applies to all prosthetic appliances, crowns and bridges.

(d) The use of plastic pontics or teeth is recommended in the cuspid-premolar region to permit continuous compensating attrition in proportion to that of the natural molars.

(e) The use of harder plastic by manufacturers for molars compared with the plastic used in the manufacture of the premolars and cuspids, to ensure the protection of the joint by maintaining a correct vertical dimension in the molar areas, thus avoiding high spots in the cuspid-premolar region.

(f) The use of a bite-block for stabilizing and supporting the mandible while performing a surgical removal of a mandibular third molar.

(g) The use of mouthguards for pilots and aircrews of supersonic jet planes, deep-sea divers, and submariners undergoing escape drill.

SUMMARY

It is said that a little knowledge is a dangerous thing and this particularly applies in the diagnosis, treatment, and the prevention of TMT arthritis. For this reason the author does not intend to present a summary on this subject as he knows the pernicious habit of some practitioners, who are too busy or not interested enough to read a complete scientific paper but prefer to pick up a smattering of dangerously little knowledge from a summary, thus performing a great disservice to his patient by becoming, quote: "An expert who knows more and more about less and less."

Nicholas Murray Butler

NOTE: The author uses the term *extended* or *extend*, not as an orthopaedic term, but as a mechanical one. From an orthopaedic sense it would be looked upon as *traction* instead of *extension*.

*34 Piers Ave.,
Armdale.*

NOTICE OF MEETING

The Canadian Academy of Periodontology will hold its annual meeting in Toronto at the Royal York Hotel — Monday, May 11, 1959 — 9.30 a.m.

C.D.A. SURVEY OF DENTAL PRACTICE

Questionnaires have been distributed to all C.D.A. members. Your cooperation in returning your completed questionnaire to the Canadian Dental Association as soon as possible will be appreciated. The deadline has been set for April 30th.

A Symposium Priorities in Dental Health Programs*

How can public moneys be spent in this field?

*Moderator: Wesley J. Dunn, D.D.S., Toronto
Registrar-Secretary, Royal College of Dental Surgeons of
Ontario*

*Panelists: Hugh R. McLaren, D.D.S., D.D.P.H., Ottawa
Assistant-Chief, Dental Health Division, Department of
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MODERATOR'S INTRODUCTION

The word priority is defined as "having an earlier claim to consideration," "a coming before in order of importance."

Most of us as we discharge our responsibilities toward the positions which we hold must establish certain priorities for our activities. Indeed it might well be stated that our effectiveness is directly proportional to our ability to assign priorities to our many and varied responsibilities.

When one considers disease entities or disease complexes it is essential to establish priorities in dealing with such conditions.

For any disease which adversely affects civilized man there are several considerations which must be brought to bear. If a disease is non-curative or non-reparative, in the usual sense of the terms, it is obvious that some form of treatment is requisite. If such diseases are amenable to prevention through either personal action or community activity then education must be a factor. Again, unless all there is to be known of a certain disease has been determined, research becomes a fundamental factor.

In arriving at priorities in respect to dental health these areas must be considered in the light of the characteristics of dental and oral diseases and the personnel available to deal with such problems.

This Panel will attempt to enunciate the aims or objectives of dental health programs and attempt to establish certain priorities to meet such objectives.

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Priorities in Dental Health Programs

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My task, this morning, is to discuss — from the viewpoint of one cloistered in the musty ivory towers and dusty halls of a federal health agency — the relative importance of dental and oral diseases as public health problems, and to suggest some of the ways by which the community's oral health most effectively (and most economically) could be improved through tax-supported health programs.

It is important, in considering priorities in dental public health, that the complexities of the problems involved be recognized. The case has been well stated, by Dollar: "Frequent reference is made", he says, "to the dental health problem as though it were a single and well-defined entity. Unfortunately, it is a whole complex of inter-related problems which cannot be isolated or separately disposed of."

It seems to me that at least four fundamental problems are associated with the determination of what our priorities should be: firstly, the characteristics of dental and oral diseases; secondly, levels of public knowledge of their significance as health problems, and of public appreciation of the need for timely preventive, reparative and supportive oral health services; thirdly, the public's ability and willingness, to pay for such services; fourthly, the availability of dental personnel, resources and facilities for the provision of oral health services in the volume required to meet the needs and/or the demands.

Dental caries and periodontal disease are the chief hazards to oral health. Malocclusion, a disfiguring and disabling disorder which affects the well-being of substantial numbers of persons in the general population, is the third major oral health

problem with which we must be concerned. The characteristics of dental and oral diseases which bear upon their significance as health problems are: their multiple and cumulative aetiology, insidious and asymptomatic onset, and persistent, destructive progression, in the absence of prompt treatment; their high attack-rates, beginning very early in life; in the case of dental caries and periodontal disease, especially, their extremely widespread prevalence; the fact that they are not curable, in the ordinary sense of this term as applied to disease; the facts that their treatment entails employment of bio-mechanical procedures which are time-consuming, hence relatively costly, and that treatment needs tend to be recurrent; and, finally, the fact that until very recently no proven public health procedures were available for community-wide prevention of dental caries, control of which is in many respects basic to the over-all problem of oral health.

Public indifference to dental and oral diseases is traditional. Until relatively few years ago the diseases and disorders of the teeth and their associated tissues and structures generally were looked upon as being merely local disturbances having no particular significance to health. This concept was supported by the facts that maintenance of life did not depend upon the presence and/or integrity of the teeth, and that death resulted only very rarely as a direct consequence of diseased, infected teeth. The ability to have the teeth replaced by functionally satisfactory and — on occasion — aesthetically superior artificial substitutes undoubtedly has tended to foster indifference to oral health. Even to-day, many persons retain the belief that the removal of their teeth and

their replacement by dentures provides a direct, conclusive solution to all of their dental problems.

Except for those individuals fortunate enough to have been born and reared in areas having water-borne fluorides, few persons in Canada possess any appreciable degree of immunity to dental caries. From the age of two or three years on the teeth are more frequently and more destructively attacked by disease than any other parts of the body. At the present time 98 per cent of Canadians over ten years of age are, or have been, afflicted by tooth decay. Yet, in any one year, fewer than 4 of every 10 persons obtain any form of dental care, other than extractions; in the case of children under the age of twelve years this ratio is decreased, to about 2 of every 10. Public appreciation of treatment-needs, as far as the primary dentition of children is concerned, is almost non-existent.

Further evidence of public indifference to oral health — if any were needed — is furnished by the apathy exhibited toward the fluoridation of public water supplies. The safety, effectiveness, practicability and economy of this procedure as a public health measure for the partial prevention of tooth decay have been demonstrated beyond scientific doubt. It is opposed by a small, but extremely vocal minority which is successful mainly because the majority of the public is not sufficiently concerned with the seriousness of the impact of tooth decay upon the community's health to get out and to do something about it.

Ability of the public to pay for adequate preventive, reparative and supportive oral health services should be considered in relation to what is known concerning the costs of dental and oral diseases, as well as what is known concerning present levels of expenditures for dental care. The Canadian Sickness Survey, in 1950-51, estimated that direct payments for private dental care, made by members of the one family in every three who visited a dentist during that year, amount-

ed to approximately \$33,000,000.00; this figure, by the way, represented about 10 per cent of all expenditures made by Canadians, during the survey-period, for all types of health care. According to information compiled by the Canadian Dental Association, the present annual costs of treatment of dental and oral diseases, including both public and private expenditures, are in excess of \$80,000,000.00.

These figures, of course, do not tell the whole story. They represent only the costs of treatment obtained by one-third of the population; for the treatment, incidentally, of an estimated one-quarter of the prevailing dental treatment needs in this group. They do not include the direct and indirect contribution of oral ill-health to the mounting costs of chronic, degenerative and disabling disease, and to reduced economic productivity.

The question of availability of dental personnel is complicated by treatment needs, public demand for oral health services and by a critical shortage of dental and auxiliary personnel. For some years, now, dental treatment needs have continued to accrue at a rate considerably in advance of that at which the public has sought to have them met. The backlog of existing dental defects could not be eliminated by existing dental personnel, resources and facilities — or by those which will become available in the foreseeable future.

There is, of course, a marked disparity between the need and the demand for dental treatment; there is, also, considerable evidence — to which anyone who tries to obtain a dental appointment on short notice, these days, can attest — that even in this regard present capabilities of the dental profession are being taxed to the limit. And, so long as the emphasis is placed by the public on treatment of the terminal effects of disease, rather than upon prevention or early control, the situation inevitably must grow more desperate.

There are some 5,700 dentists registered in all of Canada; at the present time, the dentist-population ratio is approximately

1:3000. On the basis of geographical distribution, however, this ratio shows marked variation, with the picture in many areas presenting a very bleak outlook. We are graduating between 190 and 200 dentists annually, but the number who enter practice each year barely compensate for the wastage in dental personnel due to death and retirements. During 1957, for example, the net gain in dental personnel was 83; the general population increased by about 500,000. We are turning out 12 new dental hygienists yearly. Nowhere in the country are chair assistants or laboratory technicians receiving formal training.

It has become fashionable in public health circles, to talk about "positive" health almost as though this were a condition quite separate from disease. In his recent essay, "That Damned World Health" (*The Lancet*, II, 7407, 20 Sept. '58) Gordon takes issue with this concept:

"In considering health we must remember that the problem is biological — not theological, as might almost be assumed from the above (W.H.O.) definition (of health), or political, as might be supposed from the origins and course of the (U. K.) National Health Service.

Man, like other organisms, is evolving continuously, for better or worse, within his environment; and when a person's contact with his environment, internal or external, is deleterious, he is bound to suffer some damage, though this may not be permanent or even appreciable . . . To maintain his equilibrium with his environment, man and his species are in perpetual struggle—with microbes, with incompatible mothers-in-law, with drunken car-drivers, and with cosmic rays from Outer Space. How, then, in this context of movement and buffeting back and forth between organism and environment, can we find any place for the woolly-headed definitions of "positive health", as a state that can and must be considered apart from disease? . . . The "positiveness" of health does not lie in the state, but in the struggle — the effort to reach a goal which in its perfection is unattainable."

The thesis advanced by Dr. Gordon is particularly germane to the problems with which we are dealing, here. For, in the final analysis, is not the objective of dental health to reduce the tremendous imbalance between existing oral health needs in the community and the ability of the community to meet those needs effectively and adequately? In setting up our priorities for attainment of this objective, the aims should be, first of all, to reduce the prevalence and incidence of dental diseases, and, secondly, to extend and improve the availability and the utilization of oral health services.

Since the ability to prevent and control disease rests upon knowledge of the causes and of when, where and under what conditions disease occurs, the cardinal priority in dental public health is research, both in the laboratory and as an essential part of the dental public health program. At the present time public expenditures in this regard are meagre. Last year, for example, applications for assistance to dental public health programs in Canada, through federal health grants, totalled to more than \$720,000.00; of this amount, however, only \$28,000.00 (less than 2 percent) was requested in support of research projects concerned with oral health.

The second priority, in my opinion, should be education of the public, not only in matters of oral health, but also in understanding and acceptance of the fact that it has an individual as well as a community responsibility toward prevention and control of dental and oral diseases. It is true, of course, that scientific knowledge of their causes is far from complete. On the other hand, enough is known, now, to enable our saying to the community: These diseases, to a considerable degree, are avoidable. Most cases of dental caries are preventable; no real excuse exists, today, for the appalling premature loss of teeth among children and adolescents. We can help you, but the primary responsibility rests with you, as individuals, as parents and as citizens.

I suspect that a substantial number of the public is aware of these things, in a

vague way. Perhaps the real task of health education lies in persuading people to *want* health sufficiently, that they will modify the habits, practices and attitudes which influence their susceptibility to disease.

The ability to provide the community with adequate oral health services is priority number three. It is belabouring the obvious, perhaps, to point out that the existing dental treatment needs in the general population could not be met by dental personnel resources and facilities available at present, or which will become available in the foreseeable future. The stark facts are that Canada faces a critical shortage of dental and auxiliary personnel, and that the situation will grow more desperate.

Clearly, more dental and auxiliary personnel are urgently needed. But, increased numbers will not alone resolve the problem of availability of oral health ser-

vices. An even more urgent necessity, it seems to me, is the study and development of new methods and procedures of practice, based upon the concept of dental and auxiliary personnel functioning as a well-integrated and co-ordinated team. Here, I submit, is a fertile field for public health research.

Closely related to this consideration is the utilization of the services which are available to the community. The occurrence of dental treatment needs generally is neither sudden nor sizeable, but they tend to recur and, in the absence of timely care, to be cumulative. One of the greatest challenges confronting dental public health is that of educating the public to the facts that much of the high costs of dental and oral diseases is the price of neglect.

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Priorities in Dental Health Programs

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Dental and oral diseases, because of their widespread occurrence, constitute one of our most expensive health problems. Their toll is represented in terms of general health, personal appearance, social adjustment, financial burden to individuals, and in school and industrial absenteeism. Community planning and action are necessary to eradicate needless waste associated with this persistent social and economic menace. This clearly places a heavy responsibility upon a Local Board of Health and upon that Board's executive agent, the Medical Health Officer. How well this obligation is discharged depends on local initiative; initiative that must be condi-

tioned by an understanding of the extent and complexity of the dental health problem, of its enormous impact upon the community, and by an awareness of the need for concerted action in a deliberate attack at the source of the problem. Our present-day concepts of dental diseases and of the measures available for their prevention and control therefore assume an importance that is basic to the design and intent of any well-planned dental program.

Dental and oral disorders are recognized as recurrent destructive processes comprised of three distinct but inter-related components: dental caries, malocclusion

and periodontal disease. At least one of these, dental caries, is unique in the realm of chronic disease because of a universal attack rate, because of inability of dental tissues to respond to this attack with self-repair, because treatment needs repeatedly recur, and because treatment does not lend itself to mass therapy. The dental triad is further linked by distinct cause and effect relationships. Thus, premature tooth loss arising from neglected carious lesions is recognized as a potent predisposing cause of malocclusion and periodontal breakdown. By its predilection for the initial decades of human life dental caries is fundamental in varying degrees to nearly every other oral defect. This strongly suggests the urgent need for intervention at the problem's source. Anything short of this is doomed to failure. The measures to be utilized for an attack upon the community's dental health problem fall into three major categories: educational, prophylactic and therapeutic. This brings us to a more detailed consideration of these several resources.

EDUCATION

There is ample evidence that many otherwise intelligent people are unconcerned because they are quite unaware of the enormity of the dental problem. This ignorance is compounded by fear and by the inability of some parents to purchase dental care when needed by their children. Clearly the fundamental task is to inform and educate the public. It is the job of the public health trained worker to bring about necessary changes through teaching and demonstration which will result in the development of more suitable attitudes and habits. Available evidence from diagnostic and educational programs supports this belief and demonstrates tangible results.

Since tooth formation commences early in pregnancy, prenatal classes serve as a good place to begin dental health education. Following the birth of the first child, however, is a time of unmatched interest for the mother in her new responsibilities, one which offers fertile opportunity for parent education. Continuing supervision

and counselling services provided by local health departments through organized Child Health Centres provide an ideal environment which should be utilized to the fullest extent. Here the public health dentist and his dental hygienists may observe and follow growth and development and may prescribe necessary measures to safeguard the dental health of the preschool child. In the absence of water fluoridation, topical fluoride therapy should be introduced at this critical stage. This is the age level, moreover, where observance of caries susceptibility can do much to keep this problem under control.

Also strongly recommended is dental participation in the annual preschool registrations organized jointly by many health departments and school boards for the benefit of children entering school in the fall. Here is the final opportunity to educate parents to the importance of having remaining dental treatment completed before September. Home care can again be stressed, and the need for supervision of dietary habits becomes more important if the child takes his lunch to school.

To ignore the preschool child until he enters school is to attempt to eradicate a six-year backlog of accumulated treatment needs, usually a hopeless task. Obviously the only realistic approach is to develop the school dental program as a sequence to the preschool program, thereby maintaining the ground previously gained. This is possible through periodic dental inspections accompanied by teaching and demonstration at individual and group levels. The presence of the teacher permits consultation regarding children with special dental health needs, and the opportunity may further be utilized to impact technical information which the teacher may employ for follow-up instruction or may transmit to parents. Where conditions permit, there is much to recommend extension to secondary school students soon to be faced with earning their own livelihood and establishing their own homes. The likelihood of parenthood gives opportunity for imparting knowledge which will be of value in a better

understanding of future parental obligations.

PROPHYLACTIC MEASURES

Among prophylactics, water fluoridation is unquestionably the most effective and economic single measure for mass improvement of dental health. It is with profound regret that one observes so-called "less-advanced" nations from Singapore to Buenos Aires taking advantage of this excellent preventive, while we in this province have become bogged down with fruitless political and moral debates which so far have even prevented the passage of simple legislation permitting local authorities to decide for themselves whether or not they wish to avail themselves of the measure. In view of virtually unanimous endorsement from the health professions, the general public's indifference to fluoridation can only reflect ignorance of the high cost of dental neglect, whether in ill-health or in dollars. There seems little prospect of accelerating the tempo of fluoridation unless we really harness public support effectively and translate desire into public demand much more forcibly than heretofore. This is one of the critical areas where the local health officer, as a respected community leader, can exert considerable influence by providing expert knowledge, advice and guidance necessary to mould public opinion. The individual may feel pessimistic and discouraged from time to time. Influencing public opinion is a slow process. The workers are few and the need is great. It is worth remembering, though, that a succession of drops of water, each hitting the same spot from different directions gradually wears away the stone. The lesson of the water drops is that the combined repetition process, concentrated at the same target, eventually gives results.

Direct application of stannous or sodium fluoride solutions to the teeth has also been shown to be effective in reducing tooth decay. In the hands of the dental

hygienist, topical fluoride administration has found a useful place in the community dental program as well as in private dental practice. It is, however, less effective, more time-consuming and considerably more costly, than water fluoridation. This marks it as a useful alternative in communities where fluoridation cannot be instituted for lack of a public water distribution system, or as a supplement to fluoridation in centres with considerable population turnover which tends to reduce benefits normally derived from water fluoridation.

TREATMENT

Until quite recently, treatment of the terminal destructive effects of dental diseases commanded an almost exclusive share of the attention and budgets of most local dental programs without any notable effect upon the general level of dental health. New Zealand is virtually the only country which has attempted to bring dental problems of children under control by providing free treatment on a level of volume and cost governed by the total treatment need. In spite of this monumental effort there is little to indicate any real decline in the incidence and prevalence of dental disorders in that country. There is, on the other hand, a mounting interest in the other preventive means whereby ever-recurring treatment costs might be mitigated. There is evidence from the observations of dental health workers in Canada that, beyond a certain level, unrestricted free dental care accomplishes little of lasting benefit, that it induces too many adults to abandon responsibility for the dental health of their children, and that it favours abuse of a ready facility. Every public health administrator is faced at one time or another with requests to embark on dental treatment. He must not allow this demand to obscure his own judgment. He must not permit limited funds at his disposal to go down the drain simply patching up teeth in a hopeless battle.

Treatment services belong to the realm of the practising dentist. The introduction earlier this year in Ontario of province-wide dental welfare and dental, post-payment plans will aid materially in extending private practitioner services to segments of our population heretofore deprived of ready access to the benefits of dental care. There will remain those on public assistance for whom some provision has still to be made, but even for this group free treatment should only be considered in relation to a much broader plan of educating the public in the wise and effective use of all existing means of controlling dental diseases. In such an event a useful treatment contribution is through an incremental care program commencing with the youngest accessible age group. The program continues by the inclusion each year of new children in the starting age group, the groups previously admitted subsequently receiving annual maintenance care as required. Parents who can provide dental care for their children from the family dentist should be required to do so and public treatment services should be strictly limited by this consideration.

SUMMARY

In summary, the community dental program should strive, through health education, to create an intelligent demand for the benefits of dental health. This cannot be achieved as long as major emphasis is placed on terminal treatment. The prime need is for carefully conceived educational, diagnostic and referral services, first for the preschool child, then for the school child. These must be integrated with treatment resources represented by the practising dentist. The benefits of such a program are greatly enhanced by water fluoridation; less so by topical fluoride administration. It is important to engage a competent public health trained dentist to plan and direct this program, who should be assisted by dental hygienists and clerical personnel in relation to the size of population to be served. Financial assistance from federal health grant sources is available for this type of program. Use is made of existing organized health department facilities and there is no need for extensive investment in costly dental equipment.

465 Bay St.

There are three references.

Priorities in Dental Research

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NEED

When this topic was being discussed recently with one man who is prominent in the financial world he expressed great amazement "What! is there a need for research in dentistry — why, what is the problem — if you get a hole in a tooth you go to the dentist and he fixes it?" It is at least an honest approach and he might as easily have said there is no prob-

lem regarding broken legs because if this happens you go to the doctor to have it set and that ends the difficulty. This is true where repair of damage is the only concern. But even in the case of the broken leg, conscience dictates that an effort be made to remove the hazard — for example by throwing some ashes on the icy spot on the sidewalk. Is dental disease too trivial for us to bother about its prevention — if not, what is the status

of preventive dentistry — is there need for more research and what is being done?

ATTITUDE

Traditionally dentistry was only interested in the craft of repairing dental defects. The typical dictionary definition of a dentist is "one who fills, cleans, extracts, or straightens teeth, treats gum infections, and makes false teeth". Very elaborate and skilled procedures were developed for the conscientious provision of treatment services and if there were time to discuss some, you would be intrigued by the ingenuity of our pioneer dental practitioners. Perhaps it has been the very excellence of the treatment service which delayed progress in preventive methods. But slowly and surely attitudes are changing so that the dental profession and through it the public are becoming prevention minded. The dental profession of late has taken a great interest in public health and felt strongly its responsibility to provide service for all who have dental disease. When statistics revealed that almost the entire population had dental disease and moreover that there was an overwhelming treatment backlog, it was realized that something had to be done to cut down the occurrence of dental disease because treatment for all was impossible both in terms of dental manpower and costs. This awakening to public health responsibility began perhaps fifteen years ago and is still on the increase. It has forced the attempted development through research of preventive dental measures — a hitherto unexplored field.

In addition to the research interest within the dental profession there has been much speculation regarding the importance of research to what we may call the "public health profession". I would like to quote from a recent paper*

"The concept that public health responsibility involves practical research and development of preventive measures as well as administration is currently re-

ceiving much attention and has been the subject of a very timely report by the committee on Research Policy of the American Public Health Association. Public health is after all a most important national undertaking and it is only common sense that public health authorities should actively seek to improve their own working tools as needed. The alternative is to strive blindly onward with the vague hope that some day more efficient methods will develop as by-products of other agencies' activities.

In specific medical fields this gap in public health initiative is being filled currently by voluntary societies or foundations which serve to raise public funds and sponsor research projects. Such a national agency has not yet materialized in the dental field."

A classic example of what we mean by research in the dental public health field is water fluoridation. This is the type of development that is very much needed and it is hard to see how it could have been developed without participation and initiative from the public health authorities.

PERSONNEL AND FACILITIES

In 1956 a report on the status of dental research in Canada by Williams and Wood** revealed that out of the five Canadian Dental Faculties only two were carrying out any research. One of these was the Dental Faculty at Toronto. This resulted from a campaign within the profession whereby some 142 thousand dollars was raised to start a Research Division at the Faculty of Dentistry. But even in Ontario there were only 16 men engaged in part-time research out of about 2,400 dentists, a ratio of about 1 to 150. At the same time there were around 500 persons engaged in medical research for 6,000

*M. Jarrett et al. The Role of the Regional Dental Health Director in Development and Implementation of Control Measures. *J. of C.D.A.*, Vol. 24 (Dec.) 1958.

**Present Status of Dental Research. C. H. Williams and A. Wood, *J. of C.D.A.*, December 1956.

physicians in Ontario — a ratio of 1 to 12. The expenditures in this country for the partial dental treatment of about one-quarter of the population were in the order of 80 million dollars. The dental research budget at Toronto University in 1958, its biggest year, was \$72,694.00, an amount for prevention equal to 0.1% of the partial cost of treatment. Clearly the effort is nowhere near what the situation demands.

However it can be said on the credit side that facilities are now improving, and this summer in conjunction with the new Dental Building at the University of Toronto, excellent new research laboratories will become available. Also research is beginning in at least one of the other dental faculties, at the University of Alberta. There is still a lack of trained research personnel. Perhaps the most serious obstacle here is not finding good men to undertake the training, but the establishment of research posts so that the research workers can live with some security on an equal level with the dental practitioners.

PRIORITIES IN DENTAL RESEARCH

Obviously it is very difficult to set down priorities in a field of research without a large degree of speculation. If we knew for certain where the answers lie it would be possible to more or less buy results. But biological research is not engineering; you cannot calculate the cause of periodontal disease with mathematical precision like the trajectory of a rocket. Progress comes only with hard work to be sure, but often like in the discovery of penicillin success may be dependent on a stroke of intuition or the good sense to recognize the answer in the rough when it is stumbled upon.

In the realm of clinical treatment itself there is room for increasing productivity. Steps are being made in this direction through introduction of auxiliary personnel such as hygienists. And the inven-

tion of the high-speed drill is having a revolutionary effect on the quantity and quality of operative dentistry. We look for the development of stronger and more cohesive natural appearing material for restorations. For this type of research development I think there has been too little appreciation of the contribution of the dental supply industry.

But research into treatment methods, as necessary as this is, cannot lead to the eventual reduction of disease prevalence. Let us look briefly at the possibilities and goals of research into the prevention of malocclusion, dental caries and periodontal disease.

With regard to malocclusion, we feel we are at the very hub of activity here in Toronto. For this University's Dental Faculty has engaged in perhaps the most ambitious orthodontic research project anywhere through its activities at the Burlington Research Centre. This work has been financed by the Federal Government and is now in its seventh year. During this time an almost irreplaceable set of case histories, dental casts, and radiographs have been gathered for over 1,200 individuals, and a whole generation are being given all required treatment as they grow through the ages 3 to 14 years. From these studies will come improved methods of early diagnosis, classification and treatment. But more important in the long run will be the basic research into the growth and development of the face, and the heritability of occlusion defects. In addition, and closely integrated with the Burlington project, is the research into cleft palate at the Hospital for Sick Children in Toronto.

The aggregate of research into the cause and control of dental caries now being conducted at the various universities and research institutions of the world has been no doubt very great over the year 1958. But it has been underway for a relatively short time — in most institutions only since the end of the last war. Nevertheless it is now fairly clear that the essential cause of dental caries is the dissolving of the enamel by acid which is produced

locally in the mouth by enzymatic degradation of fermentable carbohydrates when they are used in excess, particularly between meals. Superimposed on this oral environmental caries mechanism is a very marked variation in predisposition toward decay (or if you will, lack of resistance) due to faulty tooth development attributed partly to inadequate nutrition at the time the teeth are being formed, and partly to genetic forces. It is the interaction, or chance interplay of these three factors which makes the extent of tooth decay suffered by an individual so unpredictable. Preventive research is being directed in all three phases. Water fluoridation at the time teeth are developing raises their resistance to etching by acids and may at the same time function as an enzyme inhibitor reducing the acid production in the mouth. Bacterial tests and diet control can determine those individuals with high acid production and bring about reduction of this activity. Great interest is current in development of topical applications which may protect the teeth. Unfortunately with the exception of water fluoridation, the control measures discovered to date demand a high degree of understanding and co-operation from the patient and research is continuing to find means better suited to mass control.

I can tell you the least about research into periodontal disease. Treatment in-

volves mainly the improvement of hygiene, balancing of the occlusion, reduction of infection by medication or surgery, and improvement of general health through nutrition. It is known that periodontal pockets are aggravated by poor general health, by specific nutritional deficiencies such as Vitamin C, by faulty tooth alignment which puts extreme stress on teeth in function, and sometimes by bacterial invasion. In general regular dental care to reduce the above hazards during the patient's lifetime by competent dentists may achieve prevention of a large amount of periodontal disease, but the point is very difficult to establish statistically. We do not know if there exists some single essential factor or combination of factors which really brings about the onset of periodontal disease or if it is an unavoidable symptom of body aging which is merely speeded up by untoward local circumstances. Competent authorities in the field of periodontology feel that the beginning must be the conduct of thorough epidemiological investigations. These in turn may lead to a clearer understanding of the interrelations between the various manifestations of periodontal disease, hence improved recognition of early signs and eventually to true preventive measures.

67 College St.

MODERATOR'S SUMMARY

It is significant that all three papers emphatically present evidence of the overwhelming prevalence of dental and oral diseases and observe that amelioration of the problem cannot possibly be achieved through treatment alone.

Dental and oral disorders are recurrent destructive processes with three distinct but inter-related components — dental

caries, malocclusion, and periodontal disease. Dental diseases take a toll in human well-being represented in general health, personal appearance, social adjustment, financial burden and school and industrial absenteeism.

There are distinct characteristics of dental and oral diseases: (a) their multiple and cumulative aetiology, (b) their

insidious and asymptomatic onset, (c) their persistent destructive progression in the absence of prompt treatment, (d) their high attack rate beginning very early in life, (e) their widespread prevalence, (f) their non-curability in the ordinary sense of the term, (g) their time-consuming and therefore relatively costly biomechanical treatment procedures, (h) their recurrent treatment needs. Until relatively recently there were no proven public health procedures available for community-wide prevention of dental caries.

The level of public knowledge of the significance of dental and oral diseases as health problems is not high. A traditional indifference to these diseases continues to exist. The relationship to general health is, in the public mind, obscure and the high quality of artificial substitutes which may be obtained has tended to foster such indifference. While the statistical evidence reveals a widespread prevalence of dental diseases yet a very low percentage of the population receives adequate dental care. Perhaps this indifference can best be revealed in the public apathy exhibited toward fluoridation.

At the present time the Canadian public is paying annually perhaps in excess of eighty millions of dollars for dental care and yet no more than one third receives any dental treatment service in that year. These costs, although dramatic, do not include the direct and indirect contribution of oral ill-health to the mounting costs of chronic degenerative and disabling disease and to reduced economic productivity.

The lack of sufficient personnel to care for dental and oral treatment needs is also an inter-related problem and no significant augmentation is seen in the foreseeable future although efforts by the profession to increase training facilities have met with some success.

The essential objective of a dental health program is to reduce the imbalance between the existing oral health needs of a community and the ability of the community to meet those needs effectively and adequately. Two objectives, therefore,

seem pertinent: (i) the reduction of the prevalence and incidence of dental and oral diseases, and (ii) the extension and improvement of the availability and utilization of oral health services. We must direct our efforts at the source of the problem and these efforts at the community level should be educational, prophylactic and therapeutic.

The public health worker brings about changes through teaching and demonstration. Prenatal Classes and Child Health Centres should be employed for such educational activities. There should be a dental participation in pre-school registrations and any school dental program should be developed only as a sequence to an effective pre-school program.

Water fluoridation is most certainly, at the present time, the most effective and most economic method to reduce the incidence of dental and oral diseases. Here it is necessary to harness public support and translate public desire into public demand. The direct application of fluorides by dental hygienists in public health programs has demonstrated reasonable effectiveness.

Treatment of the terminal destructive effects of dental disease has traditionally demanded almost entire budgetary allotments with no noticeable effect on the general level of dental health. Unquestionably unrestricted free dental treatment accomplishes little of lasting benefit and there is tangible evidence that it induces many parents to abandon responsibility for their children's dental health and favors an abuse of a ready facility.

Treatment remains the prerogative of the practising dentist. For persons receiving public assistance wherein some treatment program seems mandatory then a plan based upon incremental care commencing with the youngest accessible age group has the only hope of ultimate success.

Dental research has not received the attention it has deserved and obviously public monies should be directed into this vital area of activity. While significant research is being done in Canada on den-

tistry's three major areas of concern — dental caries, malocclusion, and periodontal disease much more needs to be accomplished.

It would seem, therefore, that priorities in dental public health programs should be given firstly to research, secondly to public education including not only the measures which people can take as indi-

viduals but those programs which require community action, and thirdly the provision of adequate oral health treatment services which should include a study and development of new methods and procedures of practice based on the concept of dental and auxiliary personnel functioning as a team.

230 St. George St.

Untreated Fracture of the Mandible

JOHN A. FOLKINS, D.D.S., L.D.S.,* Vancouver, British Columbia

Article No. 6

The mandible ranks as the second most frequently fractured bone in the face and the tenth in the body. Seldom are these fractures left undetected or untreated due to the marked discomfort experienced by the patient. These fractures may be of traumatic or pathological origin. Violence is the greatest of the traumatic causes; and of the pathological causes, cysts, benign and malignant tumors, osteogenesis imperfecta, osteomyelitis, and other lesions can create such extensive bone destruction that eating, or even a wide yawn has resulted in a fracture of the jaw.

The treatment of any jaw fracture entails decisions as to the method of reduction, the type of immobilization, and the time at which treatment should begin. This

last decision must depend upon the patient's physical condition, such factors as systematic illness, the extent of injuries, the presence of shock, and of possible inebriation. This decision must also take into account such environmental factors as availability of hospital facilities, and the distance from a treatment centre, to mention only two. Generally speaking there should be as little delay as possible in instituting a plan of treatment and the sooner a fracture is reduced and immobilized the better will be the result.

The techniques and procedures of jaw fracture treatment depend on a thorough knowledge of the fundamentals of dental occlusion and the limitations of function of the temporomandibular articulation. If occlusion is ignored, or only partially considered, an abnormal occlusion will result. Stresses and strains will manifest themselves with attendant varied and obscure

*Oral Surgeon—St. Paul's Hospital, Children's Hospital, Vancouver, B.C. Member, American Society Oral Surgeons, Canadian Society Oral Surgeons.

facial neuralgias concurrent with the gradual resorption of the bone surrounding the teeth, and the irritation of the contiguous tissues, all resulting in the eventual loss of the complete dentition.

The treatment of jaw fractures falls within the field of oral surgery because of the fact that very few physicians, unless they have dental degrees, have more than a limited concept of the occlusion of the teeth and the functional relationship of the jaws. Too often in the past the established occlusion of a mouth has been ruined by a well-intentioned physician during the reduction of a jaw fracture. The fracture was reduced but little or no heed was paid to the occlusion of the teeth, and in such a situation the patient was not getting the best available service.

There are times, such as in cases of multiple injuries in various sites of the body, where the pressing need is for rapid and extensive surgical repair. Here, occlusion or the lack of it must assume minor importance. The general rule holds, however, that in cases of jaw fractures, the patient's best interests demand that adequate occlusion be obtained.

In jaw fractures requiring surgical interference, if no oral surgeon is available, the ideal arrangement would be a team effort with the general surgeon performing the operation and the dentist attending the occlusion. Obviously such co-operative efforts will be more frequent when there is a good relationship between dentist and physician. It is through our personal and professional contacts that confidence in our skills and specialized knowledge can be developed. If we continue to demonstrate our capabilities they will eventually be recognized in formal medical training.

If a fracture has been improperly reduced and immobilized, union may not occur, or the fracture will heal out of occlusion or a fibrous union will develop as is illustrated in the following case report.

In fractures of edentulous jaws where the dentures have not been damaged in the accident, occlusion must be observed.

But when the dentures have been lost and no splint is available much greater care is required in obtaining a satisfactory union due to the fact that immobilization is more difficult. Nevertheless we must always bear in mind that correct approximation of the fragments is the goal to be achieved even though we know that dentures can accommodate in varied degrees slight malpositioning of the fragments.

Once a fracture has healed out of occlusion there are four methods of corrective treatment:

1. Grind the teeth into occlusion in the few instances where it is possible to do so,
2. Apply orthodontic treatment where feasible,
3. Remove the teeth of one jaw and insert a denture,
4. Refracture the jaw.

Where the patient has a good dentition, and the malocclusion is too great to be corrected by either grinding or orthodontic treatment, refracture of the jaw has obvious advantages over extraction.

The following case report will demonstrate the difficulties encountered in reducing and immobilizing a jaw fracture four months after injury. The fracture occurred in an isolated community where only medical help was available. The physician immobilized the jaw and instructed the patient to go to the city for proper reduction by a dentist. It was the patient who disregarded the instructions and a fibrous union was the result.

CASE REPORT:

A 38 year old man was referred by his family dentist for treatment of a jaw fracture.

History: This man had suffered a fracture of the mandible when involved in an automobile accident. The patient was working in a small company town where no dental services were available. The physician had immobilized the jaw, using eyelet wiring, and had then referred him to his dentist at home for treatment. The



FIGURE 1

Photograph showing displacement of mandibular as above incisors.

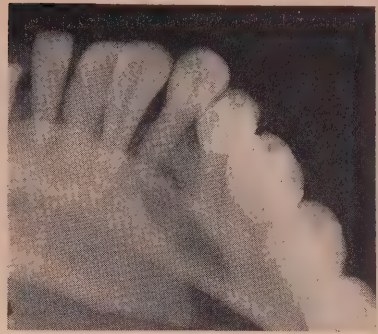


FIGURE 2

Occlusal radiograph showing the overlapping of the fragments.

patient went home but neglected to visit his dentist and after the discomfort had lessened had removed the connecting wires and taken a holiday. In the meantime tenderness persisted and movement of the mandibular anterior fragment was noticeable. Four months after the accident the patient at last decided to visit his dentist.

Oral Examination:

Clinical examination of the mouth revealed a well-cared-for dentition. Only 5 teeth were missing from the complete dentition. When the teeth were brought into occlusion all of the posterior teeth

occluded normally, but on the mandibular right beginning with the first bicuspid and extending as far as the left cuspid the teeth were markedly out of occlusion with the widest separation being in the region of the right cuspid. (Fig. 1). Pressure on the under surface of the mandible reduced the separation slightly. The right first bicuspid was loose. Movement of the fragment was evident.

Treatment:

Occlusal, lateral oblique, and antero-posterior radiographs were taken (Figs. 2, 3 and 4), after which arrangements were made for hospital admission.



FIGURE 3

Lateral oblique radiograph showing the diagonal fracture line.



FIGURE 4

Antero-posterior radiograph showing the diagonal fracture line.

Operation:

The first stage consisted of inserting and wiring a Jelenko splint to the maxillary arch. Four intermaxillary eyelet wires were then inserted, two on each side, intermittently between the posterior teeth. Connecting wires were then inserted but left loosely tied.

Under pentothal sodium, N_2O , O_2 , and ether, an open reduction of the fracture was performed. An incision was made one centimeter below the inferior border of the mandible and extended from the midline distally to the region of the first molar. The tissues were dissected, the periosteum overlying the fracture was incised, tissues retracted and the fracture site exposed.

The fracture line was discovered to be oblique in nature both vertically and horizontally. It extended from the region of the cuspid distally to the region of the first molar. Fibrous union had occurred necessitating surgical separation of the fragments. Working through the incision all soft tissues on both the buccal and lingual surfaces of the mandible were lifted from the bone almost up to the gingival crest, after which the fibrous connective tissue from between the fragments was completely excised. Once

separation was complete the denuded areas of bone were removed with rongeurs and the fresh surfaces smoothed with a bone file. The approximating surfaces of the fragments were scarified and then the fragments approximated as closely as possible.

In order to immobilize the fragments a combination of transosseous and circumferential wiring was used. Using surgical burs two channels were inserted through both fragments, and 25 gauge stainless steel wires were passed through the channels then around the inferior border of the mandible and tied. The wound was closed in layers with "0" catgut and the skin closed with "00000" kaldemic sutures. A pressure bandage was applied. The lower right first bicuspid tooth was then removed together with the malpositioned central. The jaws were then closed and immobilized by completing the tightening of the connecting wires which had already been inserted between the eyelet wires and the Jelenko splint. (Figs. 5 and 6).

Antibiotic therapy was administered daily for one week and a high protein, high caloric fluid diet prescribed. There was surprisingly little postoperative discomfort and on the sixth postoperative



FIGURE 5

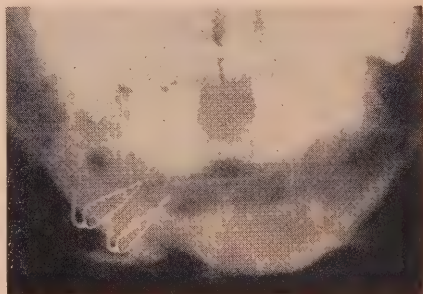


FIGURE 6

Two radiographic views nine weeks postoperative showing considerable degree of bony union.



FIGURE 7

Illustration showing the unusual curved overlapping of the fragments.

day the swelling had disappeared and the antibiotic therapy discontinued. On the eighth day the sutures were removed, and diet changed to high protein, high caloric "light" diet.

Note: This patient lived 200 miles from the hospital and was therefore retained in hospital until discharge one month after admission. The connecting wires had been tightened periodically whenever needed and upon discharge he was advised to return whenever the wires became slightly loose.

Treatment Continued:

Four weeks after admission, radiographic examination did not reveal any evidence of new bone formation but on the ninth week radiographs showed a considerable degree of bony union across the major portion of the fissure. (Figs. 5 and 6). The communicating wires were removed and slight movement of the fragments was apparent. The eyelet wires and Jelenko splint were left in position as a precautionary measure until the next visit. When he returned one month later all movement had disappeared and the eyelet wires and Jelenko splint were removed. Healing was complete.

Comments and Conclusions:

This fracture was unusual in that the line of fracture extended obliquely not only from mesial to distal but also from lingual to buccal from above downward.

(Fig. 7). At the time of operation it was noted that osteogenesis had occurred because the ends of the fragments were eburnated and smooth with new bone having been laid down at the tips and along the edges of the fragments. Even after the fibrous tissue and eburnated edges of the bone had been removed exact apposition of the fragments was impossible because after the accident the soft tissues had healed in new positions and the muscles had been readapted. The closer the fragments were brought into approximation the greater the pull on the readapted soft tissues. To let the fracture unite, a balance had to be reached between approximation and strain.

One theory holds that after a period of immobilization, slight movement of fracture fragments stimulates new bone growth. When the connecting wires were removed slight movement was noticeable but the patient was permitted to return home for one month, confined to a soft diet, but without the jaws being immobilized. This was permitted only after radiographic examination had shown evidence of new bone deposition. When he made his last visit all movement at the line of fracture had disappeared. After freedom of movement was restored the slight movement of the fragments did not interrupt the progress of new bone formation, and possibly the theory of slight movement stimulating osteoblastic activity was exemplified here.

The Plain Arch in Orthodontic Treatment

H. E. BULYEA, D.M.D., *Edmonton, Alberta

During the first few years as a specialist in Orthodontics the writer was much impressed by the teachings of the then leading members of this branch of dental science, on the subject of "bodily movement of teeth."

Their methods were followed faithfully for some time; but the results in most cases were unsatisfactory. This was particularly true in the treatment of distocclusion cases where there was considerable underdevelopment of the mandible.

The procedure followed was by the use of either Angle's tube and pin appliance, or his ribbon arch; banding most of the teeth in both arches and making the prescribed attachment to each band.

By this means attempts were made to move the teeth bodily forward in the lower jaw by means of pressure of nuts against the buccal tubes on the lower molar bands; and, or spreading loops which may have been placed in the lower arch bar, with the idea of encouraging through this added stress a general growth of the jaw. Intermaxillary elastics were also used in most cases for the purpose of pulling forward on the lower teeth.

This method was used in the fond hope that the existing lower teeth might be moved forward. This created room for the oncoming permanent molars which were deprived of sufficient room to erupt due to underdevelopment at those positions.

Whilst these procedures seemed to be getting certain results, it soon became apparent that the process was going on too slowly; and in too many cases failures showed up chiefly at or near the end of treatment, such as abnormal loosening of the teeth which had been moved. Then came the additional difficulty and uncertainty of obtaining permanent retention.

Before going into the causes of these failures, let us consider what takes place when the teeth erupt normally, and do not assume any abnormal positions.

When the first permanent tooth (usually the lower central incisor), is about to erupt, this larger tooth demands more room than was occupied by its primary predecessor, and nature responds with cell activity, and growth takes place at this particular position. The same phenomena occur posteriorly to the second deciduous molar, when the first permanent molar is developing, and about to erupt, and later on when the second and third permanent molars are coming along. These activities are encouraged very largely by the eating of foods which require considerable mastication, the stimulus of which induces development at these locations.

In these days of so much refined and mushy foods, this stimulus is largely lacking and they may also be blamed for not supplying the material needed for normal development. Consequently we have the lack of growth which is shown so frequently in the lower jaw.

*Former Director of the School of Dentistry, University of Alberta.

Some orthodontists have attempted to supply these stimuli by taking young children under their care, and teaching them to masticate proper food and by prescribing certain jaw and tongue exercises. Following good cooperation from these little patients (and their parents), in many cases excellent results have been obtained. But this is not always possible, and in most cases something of a more artificial nature must be employed.

For the treatment of such cases certain requirements must be taken into account. Namely; some means of supplying stimuli at those positions in the jaw where there has been a lack of development, and which will most efficiently set up the aforesaid cell activity where it is needed.

In this connection it must be recognized that nature develops the body of the mandible, not by a general growth of that part of the jaw; but by adding to its length at certain places; i.e.: where larger teeth replace the deciduous incisors, and where permanent molars erupt posteriorly to the deciduous teeth. The larger permanent cuspid is given extra room because the bicuspid is smaller than the deciduous molars which they replace. Space is gained in that way for the cuspid.

Our appliance should as nearly as possible simulate nature's methods or at least encourage nature to function just at these points of natural development. It should not bind the teeth so firmly as to unduly throw them out of function.

Such an appliance may be found in the plain arch. Instead of the more complicated ones, this simple contrivance has been found to answer the requirements admirably. Usually in its use anchor bands are needed only on the last fully erupted molar. The wires are easily applied to the more anterior teeth without the necessity of spreading them to gain space as when bands are applied to these teeth.

This appliance may be used to advantage as follows: (1) Where the natural arch needs widening. This is accomplished by expanding the artificial arch and wiring it to both posterior and anterior teeth.

(2) Where the first permanent molar needs more room to erupt, the second deciduous molar is banded. Elastics are placed from the posterior end of the buccal tube to a hook at the cuspid region of the upper arch. This with a little pressure of a nut against the mesial of the buccal tube, will supply the required pull on the jaws in the region of the oncoming molar, stimulating cell activity and growth at that point. (3) Where the second molar is delayed in the same manner this appliance may be used as just described. Anchorage bands in this case are placed on the first permanent molar.

Bone added where these molars are trying to erupt is needed for the lengthening of the jaw and for the purpose of allowing these teeth to assume their normal positions.

There are special periods in the child's life when appliances may be used to advantage. (1) When the lower permanent incisors are developing and the bone in these locations is not developing sufficiently to allow the larger teeth to take their places. (2) When the lower permanent molar is developing and there seems too little space for its eruption. (3) And when the same condition occurs approximately between the ages of nine and eleven, when the second permanent molar should soon be coming through. It is important that the orthodontist should keep these special periods in mind and realize that successful treatment of these particular deformities depends very largely on treatment at these times as deformities present themselves.

Early mistakes which contributed to the failures mentioned above were caused by attempts to move the teeth bodily, and using appliances of a type with too much rigidity. What was discovered at last that should be done, was to change the position of the supporting bone, and thus carry the teeth along with it. This was achieved very much as we might move the dishes on a table by adding a leaf in the middle, and allowing the addition of the leaf to carry the cups along with the

extended end of the table without moving the dishes in relation to the support. The end of the table represents that part of the jaw containing the deciduous teeth of the child or their successors at a later age and the leaf the added bone structure where the tooth was trying to erupt.

This homely illustration it is hoped will give the reader a clearer conception of our aims and will explain the differences between this method and trying to push or pull the teeth bodily through the bone into new positions in relation to their normal sockets. This conception should show us better the manner by which nature works creating room needed for additional teeth, especially those of the permanent set.

These are some of the advantages of this method of treatment:

- (1) Correction of the deformity is facilitated.
- (2) Less loosening of the teeth involved.
- (3) Less difficulty with time of retention.
- (4) Retention was more successful.

The last named advantage was no doubt due to the fact that an effort was made to follow physiological processes and the nearer we get to that the more likely we are to succeed.

In writing this article no attempt has been made to cover more than fundamental ideas that may help members of our profession, especially those who occasionally take on the treatment of such deformities. It is written with the hope that someone may receive as much benefit thereby as did the author.

11142 University Avenue.

A Dental Assistant's Point of View

LURA EDWARDS, *Toronto, Ontario*

Dentists have often been heard to complain of the difficulty they experience in employing a girl for longer than a year or even less. They refer to the assistants as being unreliable, not realizing or wanting to realize that the fault is often with themselves. Surely, they must soon become aware of the fact that the reason there is such a shortage of competent dental assistants, is simply because these girls become discouraged and dissatisfied with the salary and hours, and so decide to try for more favourable working conditions.

The salaries received by many dental assistants are pitifully small, and these strangely enough, are often paid by well established dentists who are in a position to pay better. Being a dental assistant does entail a lot of responsibility, and it is because of this that they should be paid accordingly. Many dental assistants work approximately 45 hrs. per week, 5½ days a week in comparison with approximately 37½ hrs. per week in business offices. Aside from their many office duties, she is often obliged to, while on her lunch hour, if she gets one, to pick up a paper

or a sandwich for the doctor, do the banking and make other personal purchases. To treat a dental assistant in this manner is to underestimate her intelligence and to underrate the professional importance of her services. Most dentists will agree that an intelligent dental assistant makes a substantial contribution to an efficient and well run dental office.

Often we read about how a wide awake assistant can please her employer, but seldom do we read about what a dentist can do to encourage his assistant. How long since you have had a salary rating or job assessment in your office? Wouldn't it encourage your nurse to know that you had a successful year and make her feel that she played a small part. It is hard to keep our enthusiasm at bubbling point without receiving some tangible evidence

of success. When I am dead on my feet with a thousand details still to be handled carefully I can't help but wonder if dental assisting is a career or just a job.

So I say to the dentists who I hope will read this: If you want to retain your assistant for any length of time, don't be reluctant to make her happy and contented in her work by rewarding her with a salary that permits her to enjoy self respect and a certain degree of economic security. Dental assisting is a noble vocation and should be rewarded with a dignified salary.

1474 Bathurst St.

Editorial Note:

It has long been suggested that there are dentists about, who are long in the hours and short in appreciation and salary. If this is your hat size—take heed!

**The Canadian Society Of Dentistry For Children
Annual Convention, Saturday May 9, 1959.
Royal York Hotel, Toronto.**

CONVENTION HIGHLIGHTS

Dr. Michael Cohen Essayist — Oral Manifestations of Systemic Disorders in Children.

Dr. Cohen is on the faculty of Tufts University. He is consultant in Pedodontics, United States Public Health Service and is a member of the post-graduate faculty, School of Dentistry, University of Pennsylvania. He is a Stomatologist, Boston Floating Hospital Faculty, Tufts University School of Medicine, Dep't of Pediatrics, and is a Fellow of the American Public Health Association. He is the author of the book Pediatric Dentistry published in 1957.

Dr. Herbert W. Sorenson Toronto—Table Clinician
Taking X-Rays For Children

Mr. Marvin Kozloz University of Illinois—Table Clinician
The Fractured Incisor: Diagnosis and Treatment Planning

Saturday, May 9, 1959, Royal York Hotel, Toronto

EDITORIAL

The Pursuit of Prevention

It was inevitable in the promotion of fluoridation, that the dental profession would encounter the occasional individual whose outlook was distorted by prejudice, emotion, political strategy, or just the simple fear of something new.

The public whose interest we are anxious to serve has with supreme and almost calculated effort, placed in the pathway to progress several sizable objects. Paradoxically, man has been reluctant to accept good fortune graciously, preferring instead to display certain of his most provoking characteristics. Suspicion, vivid creations of unrestrained imaginations, unreasonable questioning, and even some carefully guarded religious scruples, have all found a place in our pathway.

Possibly because we are all made of the same stuff, or because there has always been a time-lapse between the discovery of scientific facts and public acceptance of them, dentists have continued to press the issue in the face of depressing odds. Doggedly they have tried to make their fellow men drink to their own health. But public dental health seems to

be of concern only to dentists. In the main, only the dental profession is truly upset by the cumulative and chronic mire of dental disease.

Whether we like it or not, the public is not beating on the doors of industry and governments, demanding that funds be made available for research to solve our problems. Contrary to this, man has lived so long with his oral plight that he is either resigned to it or is wryly complacent. So the public continues to sit, at best apathetic and at worst contributing to the problem. Time has indoctrinated many of us with the realization that we are going it alone. For many the constant preaching of preventive measures such as dietary control and adequate oral hygiene, have been an embittering waste of time.

Now we have found an ally in fluoridation. A means of coping with approximately sixty-five per cent of our caries problem has been handed to us. Granted it is no panacea, but at least it is a reliable respite. With such relief in sight we have an opportunity to rest our heads, so

long bruised by the wall of apparent futility and real frustration, and to direct our energies toward a complete solution.

Some less sturdy practitioners have lost hope and left the field of battle. They cannot be criticized for this but they would have been wise to have been patient a little longer. We have reason to take heart. The cause is worthy and inevitably the enlightened public will demand the necessary legislation to permit

their drinking from the fountain of sound dental health.

Ultimately and hopefully soon the sheer force of intelligent scientific reasoning will cause even the most robust anti-fluoridationist to pale and wilt. Being patient is sometimes an exercise in self-discipline we do not relish. However, before long like the pursued damsel, the public will appreciate the possibilities of slowing down.

The Canadian Society of Dentistry for Children Grows

Dentistry for children is the beginning of dentistry, psychologically and actually. It is the most logical place for focus of attention on prevention. Whereas in the past prosthetic dentistry has been ponderously taught and recognized, it is only in recent years that the significance of dentistry for children has been truly appreciated.

It is perhaps because of this disparity in teaching hours between these terminals, that dentists have feared dentistry for children. To satisfy their need, dentists, for the most part general practitioners, formed the Ontario Chapter of the Canadian Society of Dentistry for Children in 1950. The sole purpose of this embryo of the C.S.D.C. was to make available to general practitioners a course of study in the preventive and treatment fields of dentistry for children.

Although the teaching is conducted largely by paedodontists and allied specialists, their entire efforts are directed toward enabling the general practitioner

to better serve the requirements of his child patients.

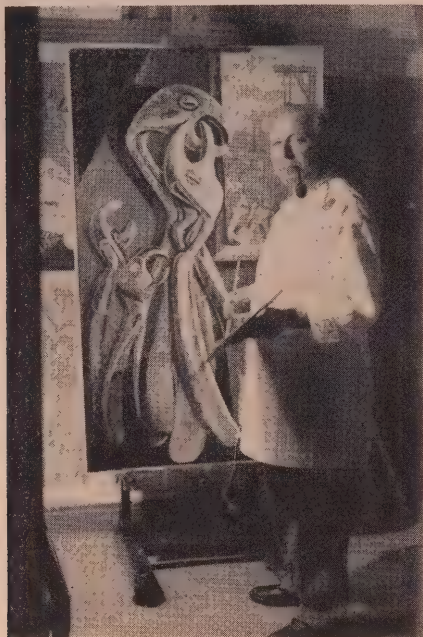
In 1958 Alberta dentists formed the Alberta Chapter of the C.S.D.C. It is hoped that eventually, dentists in every province will have seen the merit of forming their own chapters and there will exist a truly *Canadian* Society of Dentistry for Children. Equal opportunities for continued study will then be available to every practitioner.

The first scientific meeting of the Alberta Chapter was held on Sept. 4th and 5th, 1958, and it is planned to hold the next session in conjunction with the Western Dental Society June 1, 2, 3, 1959, in Banff.

On Saturday, May 9th, the Ontario Chapter of the C.S.D.C. will hold its ninth annual meeting. The ranks of this chapter are continuing to swell and this year it is expected that over two hundred dentists will be rewarded by their attendance.

The general practitioner who avails himself of these courses can credit himself with good judgment.

C.D.A. CONVENTION ART PREVIEW



Entre deux patients

ABOUT THE ARTIST

Dr. David Solot was born in Falcui, Rumania, in 1909 and went to live in France in 1927 where he received his Bachelor's degree.

He studied at the Faculte de Medicine de Strasbourg 1928 to 1930, at the Faculte de Medicine de Bordeaux 1930 to 1932 and received his Diploma Dental Surgeon in Paris in 1933.

In 1933 he received the title "Laureate" from the School of Dental Surgery and Hematology of Paris and the following year his Dental Surgeon at Choisy le Roi in 1934.

Dr. Solot joined the army in 1939, was taken prisoner in June 1940, and escaped in September 1940.

He has always loved painting, but really understood this in 1940. Since then he has spent all his leisure time painting.

Exhibitions of his paintings have been shown in Paris every year since 1947 in the "Salon des Medicine", at the "Salon d'Automne" in 1949 and at the "Salon d'art Libre".

He has made two personal exhibitions, in 1956, at the "Galerie Norberg", Paris, and in 1958, at the "Galerie Royal", Paris. There have been exhibitions in Munich and in numerous other places. Dr. Solot's paintings have been sold in Holland, Denmark, Sweden, Germany, India (Bombay), and the U.S.A.

R.E.



*Le Davier condamné
Davier-forceps*



Don Quinchotte aux deux lances



La révolte des molaires

C.D.A. HALIFA

George C. Hare, D.D.S., F.A.C.D.

Graduated from the University of Toronto, 1928. Practice limited to Endodontics in 1946. Instituted course in Endodontics at U of T in 1945.

Associate professor in charge of Endodontics at University of Toronto. Past President of the American Association of Endodontists.

SYNOPSIS: *"The Clinician will endeavor to give guidance, with the assistance of Kodachrome slides, in the treatment of re-implantation, pulpotomy, emergency removal of the pulp, acute and chronic abscess treatment and other emergency fracture problems which plague the busy practitioner."*



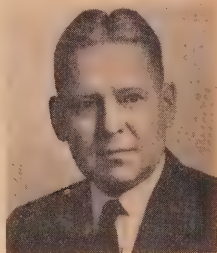
J. P. Coupland, F.A.C.D., F.I.C.D.

Member of American Society of Oral Surgeons.

Member of Canadian Society of Oral Surgeons.

SYNOPSIS: *"Tooth Transplantation and Repositioning."*

Cases will be shown to illustrate indications for transplantation and surgical repositioning of teeth as well as situations where combinations of orthodontic and surgical treatment are to be advocated. Both x-ray and photographic illustrations will be used in this presentation.



Paul Geoffrion, B.A., D.D.S., F.I.C.D., F.A.C.D.

Dean of the Faculty of Dental Surgery of the University of Montreal: Professor of Orthodontics and Director of the Department of Orthodontics: Honorary Professor at the Dental School of the University of Paris: Diplomate of the American Board of Orthodontics and Author of a text book on Clinical Orthodontics.

SUBJECT: Orthodontics for Everyone.

SYNOPSIS: *Though Orthodontics is an exceedingly difficult science, a real labyrinth where a dentist should not venture without special preparation, there are, however, certain cases within his realm. The author of this paper will give simple and clear examples where treatment is indicated.*



CONVENTION ESSAYISTS

J. Gordin Kaplan, Ph.D.
Associate Professor of Physiology,
Dalhousie University.

One Hundred Years of Darwinism

Dr. Kaplan has his Ph.D., Columbia University. He also held a Guggenheim Fellowship 1956, and was a Senior Fellow, National Science Foundation of Washington 1956-57.

One hundred years ago, the joint communication of Alfred Russell Wallace and of Charles Darwin on the evolution of species was presented to the Linnaean Society. The working out of the Theory of Evolution and its initial reception by the scientific, clerical and lay public will be sketched against the background of the philosophical, religious and scientific temperament of a century ago.

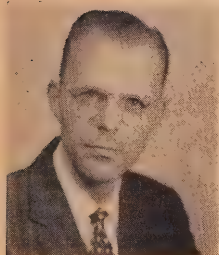


Herbert D. Millard, D.D.S., M.S.

Assistant Professor of Dentistry (Oral Diagnosis), Dental Consultant in University of Michigan Periodic Health Examination Program for Faculty. Co-author of "Oral Diagnosis" by Kerr, Ash and Millard, C. V. Mosby Co., St. Louis, copyright January 1, 1959.

TITLE: A Discussion of Some Common Cases of Stomatitis.

SYNOPSIS: *The diagnostic features of primary herpetic gingivo-stomatitis, Vincent's infection, erythema multiforme, allergic stomatitis, thrush, erosive lichen planus, and other forms of stomatitis which result in erythema and ulceration of the oral mucosa will be presented and illustrated.*



Victor L. Steffel, D.D.S.

Relining of partial dentures will be discussed as follows:—

1. The repositioning of the displaced metal framework.
2. The re-establishing of lost occlusal contacts.
3. The making of an impression which will ensure intimate tissue readaptation of the basal seat.

To adequately accomplish these things, two acceptable methods of relining will be demonstrated by Kodachrome slides, appropriate deductions will be made and helpful suggestions advanced.



THE ASSOCIATION

STATISTICAL DATA RE CANADIAN DENTISTS

Reported by Provincial Registrars
as of January 1959

Highlights

—Canada has 189 more dentists than a year ago, but the country's population grew by more than 400,000 in 1958.

—The ratio of dentists to the population remains almost unchanged at 1:2,963, compared with 1:2,981 last year.

—The best provincial ratio of dentists to population is now in Ontario, with a ratio of 1:2,344.

—The ratio shows some improvement over last year in Newfoundland, Ontario and Manitoba, but is worse than last year in the other provinces.

TABLE I
DENTISTS PRACTISING IN CANADA

Number of Dentists				Changes during 1958				*Total Related to 1938	**Ratio to Popula- tion
Province	Male	Female	Total	Deaths	Retire- ments	Addi- tions	Relo- cated		
Nfld.	43	3	46	0	0	6	3	+27	1/9522
P. E. I.	33	0	33	1	0	0	0	+3	1/3030
N. S.	187	3	190	1	3	6	3	+21	1/3737
N. B.	123	1	124	2	3	2	0	+14	1/4653
P. Q.	1,346	6	1,352	9	10	65	12	+478	1/3612
Ont.	2,432	44	2,476	39	9	91	3	+544	1/2344
Man.	275	2	277	5	5	20	3	+26	1/3141
Sask.	208	2	210	5	2	8	6	same	1/4229
Alta.	411	6	417	3	7	23	7	+181	1/2880
B. C.	619	9	628	5	3	19	1	+266	1/2459
Total	5,677	76	5,753	70	42	240	38	+1,560	1/2963

*These figures show the increase or decrease in number of dentists today, compared with 1938.

**Based on estimated population figures as of June 1, 1958, provided by Dominion Bureau of Statistics.

TABLE II
RELOCATION OF CANADIAN DENTISTS DURING 1958

To																
From	Nfld.	P.E.I.	N.S.	N.B.	P.Q.	Ont.	Man.	Sask.	Alta.	B.C.	U.S.A.	Gr. Britain	Australia	Europe	Others	Total
Nfld.			1			1						1				3
P. E. I.																0
N. S.				1		1							1			3
N. B.																0
P. Q.			1			3	1		3	1	1			1	1	12
Ont.							1			1	1					3
Man.								2	1							3
Sask.							1		3	1	1					6
Alta.							1	2		3					1	7
B. C.									1							1
Total	0	0	2	1	0	5	4	4	8	6	3	1	1	1	2	38

TABLE III
DENTISTS PRACTISING SPECIALTIES
(Only those practising the specialty full-time are enumerated).

	Nfld.	P.E.I.	N. S.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta.	B. C.	Total
Orthodontists	0	0	2	1	21	51	5	2	7	10	99
Dental Oral Surgeons (Exodontists)	0	0	2	0	6	33	4	0	5	7	57
Periodontists	0	0	0	0	3	14	1	0	1	3	22
Paedodontists	0	0	0	0	0	6	2	0	1	7	16
Total	0	0	4	1	30	104	12	2	14	27	194

TABLE IV
DENTISTS EMPLOYED IN HEALTH SERVICES

	Nfld.	P.E.I.	N. S.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta.	B. C.	Total
Dental Schools (Teaching Staff)											
Full-Time	0	0	4	0	14	15	5	0	4	0	42
Half-Time	0	0	0	0	0	3	0	0	1	0	4
Hospital Service											
Full-Time	0	0	3	2	15	15	0	2	5	5	47
Half-Time	0	0	0	0	18	5	0	0	0	0	23
School Dental Service											
Full-Time	0	0	1	2	15	27	1	1	5	1	53
Half-Time	0	0	3	1	5	57	6	1	5	0	78
Public Health Service											
Full-Time	2	2	2	1	11	17	3	7	2	25	72
Half-Time	0	0	0	0	0	0	12	0	0	1	13
Total:											
Full-Time	2	2	10	5	55	74	9	10	16	31	214
Half-Time	0	0	3	1	23	65	18	1	6	1	118

TABLE V
DENTISTS EMPLOYED BY FEDERAL DEPARTMENTS
(Full-time)

Department of Veterans Affairs.....	38
Department of National Defence.....	170
Department of National Health and Welfare.....	17
Total.....	225

LADIES' EVENTS — HALIFAX, JUNE 21-24, 1959

Say Doctor—did you pass on that Special letter to your wife? We certainly hope you did because it contained many items of special interest for the ladies. You know—most conventions never seem to look after the ladies well enough. They always seem to have too much time on their hands. The Ladies' Committee of the convention in Halifax promise you this—they will provide a program that will be most pleasing and entertaining to all the attending ladies. The committee has been hard at work laying the plans for the forthcoming convention and in this respect they have spared no effort.

FLUORIDATION IN CANADA

More than one million Canadians are using fluoridated water. Nine communities with a total of 68,000 people started using fluoridated water during 1958.

Water fluoridation is in effect in 39 Canadian communities with populations totaling about 1,027,988. In the United States, fluoridation benefits 1,762 communities and 34,600,000 people.

MUNICIPALITIES WITH CONTROLLED FLUORIDATION

(January 1959)

PROVINCE	MUNICIPALITY	DATE STARTED	POPULATION AFFECTED	
Newfoundland		none		
Prince Edward Island		none		
Nova Scotia	Halifax	June 11, 1956	90,871	
	Dartmouth	July 3, 1956	20,004	
	Kentville	Feb. 16, 1956	4,840	115,715
New Brunswick		none		
Quebec	Pointe Claire	Feb. 3, 1955	15,067	
	Dorval	Feb. 1956	14,000	
	Joliette	1957	18,168	
	Rock Island	July 1958	4,000	
	Pont Viau	1958	12,000	
	(also includes Duvernay		4,500	
	St. Vincent de Paul		6,000	
	Laval des Rapides		10,000	83,735
Ontario	Brantford	June 20, 1945	51,557	
	Brockville	Feb. 18, 1956	15,000	
	Deep River	Dec. 9, 1952	3,000	
	Fort Erie	Jan. 18, 1952	8,567	
	Oshawa	Feb. 26, 1953	50,136	
	Sudbury	Aug. 20, 1952	50,000	
	Thorold	Feb. 12, 1952	8,000	
	Tisdale Township	Oct. 3, 1955	8,000	194,260
Manitoba	Brandon	March 8, 1955	24,579	
	Portage la Prairie	Jan. 10, 1957	10,374	
	Winnipeg	Dec. 28, 1956	409,687	
	Boissevain	1957	1,100	445,740
Saskatchewan	Assiniboia	May 1953	2,027	
	Eston	Sept. 1957	1,578	
	Moose Jaw	Dec. 1952	29,603	
	Saskatoon	July 1955	72,858	
	Swift Current	Oct. 1954	10,612	
	Weyburn	March 1955	7,684	
	Wynyard	August 1956	1,625	125,987
Alberta	Fairview	March 4, 1958	1,260	
	Red Deer	June 10, 1958	16,000	17,260
British Columbia	Kelowna	Sept. 15, 1956	10,468	
	(incl. Glenmore)			
	Prince George	Sept. 13, 1956	10,563	
	Prince Rupert	March 1, 1957	10,498	
	Smithers	June 21, 1955	1,962	
	Kitimat	Feb. 1958	11,000	
	Mesachie Lake	Feb. 1958	800	45,291
CANADA TOTAL				<u>1,027,988</u>

Reduced Rail Fares for Halifax Meeting

The Canadian Passenger Association has authorized reduced railway fares on the Identification Certificate Plan for the 1959 meeting at Halifax. Approved dates for the start of the going journey are as follows:

- From stations on western lines—all points west of Fort William and Armstrong, Ontario—June 11 to 20, inclusive.
- From stations on eastern lines—Fort William and Armstrong, Ontario, and all points east thereof, except Newfoundland—June 13 to 22 inclusive.
- From stations in Newfoundland—June 11 to 20 inclusive.

Members of the Canadian Dental Association and members of their dependent families are entitled to reduced fare round-trip tickets to Halifax, on presentation of an Identification Certificate. Provision has also been made for members of the Canadian Dental Nurses' and Assistants' Association to obtain reduced fares on this plan.

Certificates are available from the Secretary, Canadian Dental Association, 234 St. George Street, Toronto 5.

President's Annual Visitation

Dr. George M. Dewis, President of the Canadian Dental Association, visited dental organizations in the major cities of western Canada, accompanied by Dr. Don W. Gullett, Secretary.

Starting at Saskatoon on February 23rd, the president and secretary attended meetings at Edmonton, Calgary, Victoria, Vancouver, Lethbridge and Regina, concluding their tour at Winnipeg on March 10th. They expected to address dental students at the University of Alberta and University of Manitoba.

C.D.A. Endorses Cancer Society Campaign

In April the Canadian Cancer Society will ask the public to provide the funds necessary to continue its attack on three broad fronts — Research, Education and Welfare Services. A minimum of \$2,750,000 is required. The President of the Canadian Dental Association has issued a statement supporting this cause and urging Canadian dentists to support this national effort to eliminate cancer as a major medical disease.

Through its affiliation with the National Cancer Institute of Canada, the Society has made notable contributions to the scientific attack on cancer which is being carried on in universities and institutions with funds raised annually in the Society's campaigns. Dr. C. H. M. Williams of Toronto is the C. D. A. representative to the National Cancer Institute.

Council on Dental Education

Deans of all six Canadian dental schools were among those attending the recent meeting in Toronto of the C.D.A. Council on Dental Education under the chairmanship of Dean James D. McLean of Dalhousie University, Halifax.

Among the accomplishments of the meeting were the following:

- agreed to set up a pilot study on aptitude testing to be conducted at the Toronto dental faculty by the educational research department of the Ontario College of Education.
- heard and discussed proposals of civil defence authorities on the subject of indoctrination of dental students in matters pertaining to civil defence.
- after studying reports on the extension of teaching facilities and estimated increase in number of dentists, passed a resolution directed to the C.D.A. Executive that complacency should not be allowed to develop regarding the need for still more new facilities for teaching dentistry.
- studied reports of conferences on admission requirements and training of dental technicians.
- approved revised pamphlets on dental internships and lectures in dentistry for nurses in training.
- established a program of future teacher training conferences on Oral Anatomy (1960), Operative Dentistry (1961), and Oral Diagnosis and Treatment Planning (1962).
- at the direction of the Board of Governors at the 1958 Annual Meeting, revised the recommendations concerning anaesthesia for submission to the next Board meeting in June.

University of Toronto Dental Building

It is hoped that by June 1, 1959, all details of construction of the new dental building at the University of Toronto will be completed. The installation of furniture and equipment is planned to proceed immediately thereafter and it is expected that the teaching areas at least will be ready for use by late September or early October.

Enrolment in Canadian Universities and Colleges

A record 94,400 full-time university-grade students were in attendance at Canada's universities and colleges at December 1, 1958, as reported by the Dominion Bureau of Statistics. This is 9.1% above the total of 86,500 reported a year ago.

The largest enrolments were at Toronto, 12,289; University of Montreal, 11,254; University of British Columbia, 10,326; Laval, 8,360; McGill University, 6,796; University of Manitoba, 5,202; and University of Alberta, 5,183.

New peaks in enrolment were established in the current academic year in the four Atlantic provinces as well as Quebec, Alberta and British Columbia. Ontario and Saskatchewan approached the record set in the 1947-48 session. Enrolment at Manitoba was well under the peak of 1947-48.

The four western provinces have the highest increases over last year, 12.2%. By faculties, increases of more than 10% over last year were reported for optometry, education, physical and health education, arts and science, social work, journalism and pharmacy. Enrolment in engineering was only 2% greater.

The DBS release included no statement respecting enrolment figures for dentistry or medicine. Undoubtedly the increased enrolments generally in universities reflect the increased birth rate beginning two decades ago.

Explain Your Fees

The following editorial, under the heading "Explain your fees", appeared recently in the "A.M.A. News", a publication of the American Medical Association.

More physician-patient relationships have been strained by a misunderstanding about fees than perhaps any other disagreement. The first safeguard against this misunderstanding is an explanation of fees being charged.

Some doctors feel they lack time for a frank discussion of these matters with patients, but lack of time is not a valid excuse. A patient has every right to know why he needs treatment or surgery, what it will consist of, and what it will cost—particularly where major services are to be rendered.

For minor services, a charge slip often can give the necessary information to the patient. But even if a charge slip is used, the end of the month statement should be itemized. Too often patients forget how much service was rendered during the month. Thus a brief statement reading, "For professional services . . . \$75," may seem to the patient to be too high. An itemized breakdown usually will avoid this misunderstanding.

If a statement is not itemized, it should at least have these words printed at the bottom of the statement, "Itemized statement on request".

It is also important that a physician's secretary be apprised of the various items included in a patient's statement. The secretary should be able to explain fees so the patient understands completely before leaving the office.

Generally the patient's reaction to a fee is determined more by the doctor-patient relationship than by the size of the fee, itself, or by the quality of medical care given.

Thousands of physicians have found it helpful to place in the waiting room AMA's plaque carrying this message:

"I invite you to discuss frankly with me any questions regarding my services or my fees. The best medical service is based on a friendly, mutual understanding between doctor and patient."

The plaque not only invites patients to ask questions, but it proves the physician displaying it has a sincere desire to bring them the best medical care.

A physician's office procedures should answer the patient's questions concerning fees before he asks them. A proper understanding concerning fees not only will help your physician-patient relations but also help your collections.

Sound public relations is an economic asset in any doctor's office.

(The C.D.A. Public Relations Committee has published a similar plaque for use by Canadian dentists. It is available from C.D.A. Headquarters — \$2.00 per copy. Hundreds of our members have already purchased plaques.)

61% Less Extractions

—from "Dental Health Highlights" of the American Dental Association.

A reduction of 61 per cent in four years in the number of permanent teeth requiring extraction among first, third and seventh grade parochial school children in Philadelphia was disclosed by recent examinations. In the opinion of Dr. John P. Looby, supervisor of dental services in the parochial schools, two factors were responsible: (1) the effect of the Philadelphia fluoridation program and (2) the establishment of a dental corrective program by the dental division of the Department of Public Health under the direction of the late Dr. J. M. Wisan which emphasizes the filing of the occlusal surface of all first permanent molar teeth upon eruption (prophylactic odontotomy). The procedure was planned by Drs. Looby and Wisan, because studies of their statistics revealed that the loss of the first permanent molar tooth is the most common in their pupils.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuation as of Feb. 28, 1959

GOVERNMENT BOND FUND

Cash:	\$	78.91
Investments:		
226 Units—Gov. Bond Fund at \$93.265 per unit		\$21,077.89
Interest Accrued to Feb. 28, 1959:		
226 Units—Gov. Bond Fund at \$.35585 per unit		80.42
TOTAL		\$21,237.22
Less: Administration fees— $\frac{1}{8}$ of 1% of \$21,237.22		26.55
TOTAL MARKET VALUATION		<u>\$21,210.67</u>
TOTAL UNITS OUTSTANDING	2,139.757	
Unit value as of Feb. 28, 1959		<u>\$21,210.67</u>
	2,139.757	\$ 9.912

CORPORATE BOND FUND

Cash:		9.13
Investments:		
569 Units—Corp. Bond Fund at \$100.023 per unit		\$56,913.08
Interest Accrued to Feb. 28, 1959:		
569 Units—Corp. Bond Fund at \$.42715 per unit		243.04
TOTAL		\$57,165.25
Less: Administration fees— $\frac{1}{8}$ of 1% of \$57,165.25		71.46
TOTAL MARKET VALUATION		<u>\$57,093.79</u>
TOTAL UNITS OUTSTANDING	5,466.150	
Unit value as of Feb. 28, 1959		<u>\$57,093.79</u>
	5,466.150	\$ 10.444

COMMON STOCK FUND

Cash:	\$	185.40
		(DR)
Investments:		
9,488.0210 Units Retirement Savings Plan Equity Fund at \$11.5872 per unit		\$109,939.59
TOTAL		\$109,754.19
Less: Administration fees— $\frac{1}{8}$ of 1% of \$109,754.19		137.19
TOTAL MARKET VALUATION		<u>\$109,617.00</u>
TOTAL UNITS OUTSTANDING	8,868.926	
Unit value as of Feb. 28, 1959		<u>\$109,617.00</u>
	8,868.926	\$ 12.359

Trustee: The Royal Trust Company.

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge Street, Toronto 7, telephone HU. 1-5731.

THE CORPS

Dental Health Day

At the request of the Dental Health Committee of the Ontario Dental Association, R.C.D.C. personnel took part in "Ontario Dental Health Day" held on February 4th. The R.C.D.C. program was carried out in all camps in Ontario where Department of National Defence Dependents Schools are located, and was directed at teachers, school children and parents. Although concentrated on February 4th, the program in most cases commenced a few days before Dental Health Day and included the following activities:

1. School children were examined and parents notified of their dental condition;
2. Teachers were given lectures and presented with dental health education material;
3. Talks were given to the school children;
4. Dental Officers addressed special Home and School Association meetings;
5. Articles on dental health were published in Camp newspapers and letters were sent to parents;
6. An "Open House" was held at most clinics in the evening of Dental Health Day.

It is felt that, generally speaking, the program was successful and worthwhile although this is difficult to evaluate. The greatest interest was shown by the school children and teachers. The teachers particularly valued the material that was presented to assist them in their task of teaching dental health.

New Dental Society Formed

Major G. McDougall of Lennoxville, Que., Officer Commanding the Dental Detachment of UNEF has announced the formation of a new dental society. Named the "Sinai Dental Society" its members include the dental officers of Canada, Norway, Yugoslavia, Denmark and Sweden serving the United Nations Emergency Force in the Middle East.

Major G. Windsor Visits RCAF in Sardinia

Major George Windsor of Kamsack, Sask., serving with No. 35 Field Dental Unit in France, recently spent a week on the island of Sardinia providing dental treatment for R.C.A.F. personnel stationed there.

Associate Committee on Dental Research

Colonel G. B. Shillington represented the Director General of Dental Services at the annual meeting of the Associate Committee on Dental Research held in Ottawa, February 26-27.

Colonel C. B. Climo Honoured

No. 54 Dental Unit Canadian Army Militia held a Regimental Dinner in Ottawa on February 7 to honour Colonel C. B. Climo, R.C.D.C. (retired) and presented him with a certificate of appointment as Honorary Lieutenant-Colonel of the Unit. Brigadier K. M. Baird, Director General of Dental Services was present and replied to the toast to the Corps. No. 54 Dental Unit is commanded by Lt.-Col. C. E. Woods of Ottawa.



Major A. G. Andrews of RCAF Station Rockcliffe, Ottawa, is shown talking to children about dental health on "Dental Health Day".

WESTERN CANADA DENTAL SOCIETY 1959 CONVENTION

Banff Springs Hotel

Banff, Alberta

May 31st, June 1st, 2nd, 3rd

Essayists

- Col. Robert Shira —Chief, ORAL SURGERY Section, Walter Reed Medical Centre, Washington, D.C.
- Dr. Maury Massler —Head, Dept. of PEDODONTICS, University of Illinois, Chicago, Illinois.
- Dr. George Hughes —Head, Dept. of PROSTHODONTICS, University of California, San Francisco.

and lectures by:

- Dr. John W. Neilson—Dean of Dentistry, University of Manitoba.
- Dr. Floyd Jacobson —Head, Dept. of Oral Diagnosis, University of Washington.

For accommodations write: Dr. T. A. Alexander, 901 Greyhound Bldg., Calgary, Alberta.

BRITISH COLUMBIA DENTAL ASSOCIATION CONVENTION

HOTEL VANCOUVER

VANCOUVER, B.C.

MAY 28, 29, 30

FEATURING:

- DR. R. A. McEWEN—ATLANTA, GEORGIA.
- DR. K. R. CANTWELL—UNIVERSITY OF OREGON DENTAL SCHOOL
"High Speed Techniques in Tooth Preparation"
- DR. R. D. FISHER—GLENDALE, CALIFORNIA
"Creating the Illusion of Natural Teeth"
- CHAIR AND TABLE CLINICS—covering the entire dental field.
- Program for wives and Dental Assistants—entertainment for all.

Address inquiries or requests for accommodation to:

Dr. W. Ross Upton,
217 Medical Dental Building,
Vancouver, B.C.

THE PROVINCES

ALBERTA

Lethbridge and District Dental Society

The Lethbridge and District Dental Society met on Friday March 6th for the visit of Dr. G. Dewis, President of the Canadian Dental Association and Dr. Don Gullett, Secretary of the Canadian Dental Association. President Dewis is from Nova Scotia and welcomed us to the Convention of the Canadian Dental Association which will be held in June at Halifax, Nova Scotia. He gave an interesting history of what the C.D.A. has done for us and what it is doing for dentists across Canada.

Dr. Gullett also discussed the affairs of the Canadian Dental Association. He stressed the need for dental statistics which the recent survey will provide. He also explained the importance of the Canadian Dental Service Plans Incorporated.

Out of town dentists who were present included Dr. Bob Burgman, and Allan Grey from Blairmore, Dr. Cy Bryant from Pincher Creek, Dr. Falconer from Fort Macleod, Dr. Lamb from Taber, and Dr. Bob Gray from Medicine Hat.

D. A. R.

BRITISH COLUMBIA

Vancouver and District Dental Society

The spotlight was focused on affairs of the Canadian Dental Association at the March meeting when the national president and secretary paid their yearly visit.

Introduced by Dr. Charles Whitworth, Dr. George M. Dewis, the president, outlined the accomplishments of the C.D.A. during the last 57 years. He predicted that the association will continue to grow as a dynamic organization and that the benefits we derive will be in proportion to what we put into it.

Dr. Don Gullett, the secretary, was presented by Dr. William Miller who paid tribute to the "Ambassador of Canadian Dentistry." Dr. Gullett expressed his pleasure in renewing friendships made during the tour across Canada year by year.

In dealing with the changing needs of the profession, he stressed the necessity of obtaining accurate statistical data from dentists rather than from other sources. Interest in a wider sphere is essential as we have ploughed a narrow furrow in the past. If a long-term effort is made, almost anything can be accomplished for the dental profession provided that it is right in the first place.

Home Talent Clinics

The Home Talent Clinics of the Vancouver and District Dental Society, held in the ballroom of the Hotel Vancouver on February third were received with enthusiasm by many, including several from out of town.

During the afternoon three chair clinics were presented in succession through the medium of closed-circuit television with ten outlets. Dr. J. E. Harrison performed an anterior gingivectomy operation with Dr. S. B. Smordin acting as narrator, Dr. N. C. Ferguson prepared a porcelain jacket crown, and Dr. C. R. Hallman took full upper and lower impressions.

After a short business meeting which followed the dinner hour, fifteen table clinics



DR. WESLEY MUNSIE, President, B. C. Dental Association

were given covering many aspects of dental practice.

The clinicians were: Dr. G. M. Jinks, Dr. A. E. Swanson, Dr. T. D. Hope, Dr. W. R. Scott, Dr. E. N. M. Pottinger, Dr. M. M. Chechik, Dr. B. M. Plumb, Dr. G. F. Copithorne, Dr. R. J. O'Neil, Dr. S. R. Kirson, Dr. D. A. McDougall, Dr. D. G. Marshall, Dr. J. Vickar, Dr. J. Blumes, Dr. A. Diner, Dr. A. Fraser, Dr. C. W. Gardner, Dr. J. S. Craib, Dr. N. Chernen, Dr. John Ingledew, Dr. O. F. Wright, Dr. M. Panar and Dr. R. B. Telford.

Much credit is accorded to Dr. S. Margoless who was in charge of the program, and to Dr. Wm. Doe who took care of the local arrangements.

D. H. M.

B. C. Dental Association

Dr. Wesley P. Munsie, president of the association, will preside over the annual convention to be held at the Hotel Vancouver

on May 28, 29, and 30. Committees are hard at work and a memorable meeting is assured.

In keeping with the modern trend, "high speed" will be an outstanding feature. Dr. R. A. McEwen of Atlanta, Georgia, and Dr. K. R. Cantwell of the University of Oregon, will work as a team on "High Speed Techniques" with an evaluation of all equipment now in use.

Dr. Roland D. Fisher of Glendale, California will give lectures on denture aesthetics, and there will be an impressive array of chair and table clinics.

Community Preventive Dental Clinics

Last school year, one hundred and fourteen dentists worked with eighty community preventive dental clinics in British Columbia. Their services were the equivalent of twenty full-time dental officers.

These preventive programs operated from Fort St. John to Port Renfrew, from Michel to Kyoquot, in all seventeen health unit areas and in fifty-two of their seventy school districts. Only one remote community requesting this service last year was denied. This was because there was no available visiting dentist.

These programs stress chairside dental health education of child and parents. They carry out community education through the schools, well baby clinics, Parent Teacher Associations and service clubs. Many use local press and radio, and arrange displays in schools, store windows and at fall fairs.

The Division of Preventive Dentistry conducts an active program of research to evaluate and where possible improve the quality and effectiveness of these programs. Studies with single applications of eight per cent stannous fluoride are being closely followed. When this is proved to be a sound dental public health practice, it will be recommended for these clinics.

Regional Dental Consultants assist these communities and dentists in fourteen of the seventeen health unit areas. Each of these four full-time dentists received post-graduate training while on full salary with the Provincial Health Branch. This year a fifth may be appointed.

These clinics are available to over 11,000 Grade I pupils. Approximately 5,000 received complete treatment and chairside education themselves and often their parents. Over 2,000 preschools (an important group) also

attended and approximately 1,500 pupils of Grades two and three.

Including the Greater Vancouver and Victoria programs, preventive dental services were available to eighty per cent of the Grade one pupils of this Province last school year. The Provincial Health Branch and the respective communities are sincerely appreciative of the part played by the dentists working with the community preventive dental clinics.

The Division of Preventive Dentistry was established ten years ago when limited school dental services were operating only in Greater Vancouver and Victoria.

Although much has been accomplished, much remains to be done. For example, there are only six communities in this province now carrying out water fluoridation, serving some 45,000 persons of the 1,544,000 of this province, i.e., approximately three per cent.

The gap between the occurrence of dental disease and abnormalities, especially dental decay, and the services that the dental profession at its present strength can provide, remains a most serious problem.

Answers to this problem are available but await implementation. The demands for their implementation must come from the dental profession and all citizens of this province who believe that the health of the future citizens, the children, is a goal worthy of their untiring efforts.

F. M.

MANITOBA

Dr. Ralph Connor — Director of Dental Services

The dental profession in Manitoba has been blessed with the addition of one of our Eastern brothers in the person of Dr. Ralph Connor, who has been appointed to the position of Director of Dental Services for the Manitoba Government. As noted in the Ontario section of the January Journal, Dr. Connor was well known and well liked in the Niagara Peninsula area, both for his friendliness to all and for the excellence of the preventative program he established. We hope and anticipate that he will be equally successful in both fields here in Manitoba.



DR. RALPH CONNOR, Director of Dental Services for the Manitoba Government

Manitoba is indeed fortunate in obtaining a man with Dr. Connor's background and ability to take over this extremely important field of dentistry within its boundaries. Manitoba dentists welcome him and hope that his stay will be a long and happy one.

CURLING AT PORTAGE LA PRAIRIE

An event worthy of note took place during January when the dentists of Portage la Prairie were hosts to a number of their city and country confreres in a one day curling match.

The following dentists and dental supply men attended:

Dauphin — Scotty Robertson, Al McKee.
Neepawa — D. Dawson, J. Pierce.
Brandon — J. Mills, J. Purdie.
Portage — F. Parrott, H. Smith, Wm. Smith, J. Menzies.
Winnipeg — T. J. Cooke, D. McCord, M. Averbach, J. Abra, J. Neilson, P. Goldberg, O. Brown, J. Hall, L. Soloway, P. LaFleche, K. Routley, E. White, J. Steen.

Dental supply men — J. Tevendale, R. Fox.
All those present thoroughly enjoyed themselves and many thanks and appreciation are due to the Portage men for the efforts they put forth for this event.

J. P. B.

Manitoba Dental Association

The annual convention of The Manitoba Dental Association and the Winnipeg Dental Society was held January 19th and 20th at the Royal Alexandra Hotel in Winnipeg. The presence of many rural members indicated that this event is catching on in popularity and that it fills a very definite need by providing an opportunity for all Manitoba dentists to get together at least once a year.

The first day, being the regular Winnipeg Society Clinical meeting, featured Dr. Carl Boucher of Ohio, speaking on "Full Denture Prosthetics". Dr. Boucher has the reputation of being one of the outstanding authorities in his field on our continent. He has held executive office in practically every association that deals with the advancement of prosthetic dentistry and at present he is the Editor of the *Journal of Prosthetic Dentistry*. He certainly more than lived up to his reputation in his presentation in Winnipeg. Through the media of excellent movies, slides and a very lucid, down to earth commentary, he proceeded through the various anatomic landmarks that must be recognized and compensated for when building a prosthetic restoration. Using this anatomic background he then showed a step by step technique of examination, impression taking, bite registration, aesthetic control, finishing and adjustment for full dentures. The members showed their interest and appreciation of Dr. Boucher's effort by remaining practically en masse until after 5 o'clock when he finished, even though it meant cutting short the cocktail party slated for that evening.

The evening social gathering was again a huge success and much credit must be given to Dr. Ivan Jackson and his committee of ladies for not only encouraging a large turn out through their letters and phone calls, but also for providing excellent liquid refreshments, palatable food and good entertainment. This combination could only provide a thoroughly enjoyable evening for one and all.

The second day of the convention was given over entirely to the annual business meeting of The Manitoba Dental Association. The multitude of problems that confront any provincial association these days and the tremendous amount of work necessary to cope with these problems goes on twelve months of the year, and to try and encapsulate this year's activities into half a day would not be fair either to the general body or to the Association Board members. The prime purpose of this meeting was to report to the membership what had been done on their behalf and to give everyone a chance to question and discuss these actions. This purpose was adequately carried out and Dr. T. J.

Cooke, President of the Board, and all his Board members are to be congratulated on this.

Dr. Cooke gave a very comprehensive President's report covering many of the little known activities as well as the accomplishments of his Board. These explanations gave the general body a much clearer insight into the over-all situation. He also outlined the many necessary expenditures that had come up and would come up again, such as the legal and investigation costs of the illegal dentistry situation, Children's Dental Health Week, public relations expenditures, and the necessity of changing the physical set-up of the Association office. The meeting gave full endorsement of the Board's activities and in recognition of the financial situation approved a motion raising the annual dues to \$100.00.

The new slate of officers for 1959 was announced as:

Dr. J. E. Abra, President,
Dr. F. W. Parrott, Vice President,
Board members:
Dr. J. E. Purdie,
Dr. W. I. Jackson,
Dr. F. W. Jones,
Dr. T. J. Cooke,
Dr. J. O. Brown, Registrar,
Dr. W. Gordon Campbell, Secretary-Treasurer.

A further highlight of the meeting was the election to Life Membership in the Association of Dr. D. A. McCarten and Dr. B. McKenty, both of Winnipeg.

The February clinical meeting of the Winnipeg Dental Society featured Dr. W. G. McIntosh of the University of Toronto Dental College speaking on "Periodontics".

Dr. McIntosh showed his enthusiasm for his specialty by presenting an extremely good short course covering most of the aspects of this important field of dentistry. Many Manitoba dentists have pleasant memories of Bill McIntosh as a teacher at Toronto and his friendliness and competence certainly carry through in his clinical presentations.

Dr. D. McInnes thanked the speaker and presented him with a suitably inscribed buffalo statuette on behalf of the Society.

Dr. Muni Averbach the Society President presided over the monthly business meeting held at the noon luncheon recess.

Something new was added to Manitoba dentistry annals in February when a rink skipped by a youthful Winnipeg Dentist, Dr. Dick Bird, won the Provincial Curling Championship, and the right to represent Manitoba in the Canadian play-off in Quebec.

Dr. Bird's rink swept undefeated through the two-group double knock out British Consols play-downs winning seven straight games.

When it is realized that Manitoba is the recognized centre of curling interest in Canada and that some of the rinks he defeated included former Canadian champions, Dr. Bird's accomplishment is all the more outstanding.

Manitoba dentists join in offering our heartiest congratulations to Dick and his rink members and wish him the very best of good luck in the forthcoming Canadian championship play.

NEW BRUNSWICK

Dr. Frank A. Godsoe Honoured

A former Saint John dentist, Dr. Frank A. Godsoe, in his 98th year, has been honoured by the New Brunswick Dental Society, of which he is the oldest living member. Dr. E. D. Halford, secretary of the provincial body, made the announcement at the regular meeting of the Saint John group. He said that the council of the provincial society had decided that its annual scholarship, awarded to a worthy student in the faculty of dentistry at Dalhousie University, Halifax, would in future be known as the Godsoe Scholarship in honour of the Saint John native. The council increased the amount of the scholarship from \$25 to \$50 this year. It is the only bursary awarded by the New Brunswick Society.

Dr. Godsoe was a graduate of Boston Dental College in 1883 and became a registered dentist when the provincial society was incorporated in 1890. He acted as registrar-secretary for four years and was also a member of the council. He was made a life member in 1940 and in 1954, at the age of 93, was made an honorary life member of the Canadian Dental Association.

Dr. Godsoe is the only member of the Canadian Dental Association still living, who was present when the association was formed in Montreal in 1900.

He was in practice in Saint John for 50 years. Dr. Godsoe made his home in Hampton 25 years ago, is still active and retains his interest in the practice of dentistry and its modern developments.

NEWFOUNDLAND

Newfoundland Dental Society

Dr. D. A. Poole has been elected president of the Newfoundland Dental Society. Other officers elected at the annual convention held in Corner Brook recently are: Dr. J. H. Hann, St. John's first vice-president; Dr. Reg. Ball, Grand Falls, second vice-president; Dr. Bruce Bowden, St. John's, secretary; Dr. William O'Driscoll, St. John's, treasurer.

The convention program consisted of a clinic on oral surgery conducted by Major L. A. McCully, of Harmon Air Force Base and a paper on the workings of the Canadian Dental Association by Dr. Don W. Gullett, secretary of the C.D.A.

The clinic held at the afternoon session by Dr. Ken Kerr of the Faculty of Dalhousie University, concerned full denture impression techniques.

NOVA SCOTIA

Nova Scotia Dental Association

On Jan. 28th the Nova Scotia Dental Association was host to Dr. G. M. Dewis, President and Dr. Don W. Gullett, Secretary of the Canadian Dental Association at a Banquet held in the Nova Scotian Hotel. A representative number of members was present from various parts of the province. Two past Presidents of the Association, Drs. A. W. Faulkner and W. W. Woodbury, were present.

Both officials of the Association addressed the meeting on the general business and benefits that have accrued from the strong support of the National Association by the corporate and individual members.

Faculty of Dentistry, Dalhousie University

Recent extra-mural activities of the Faculty of Dentistry of Dalhousie University included lectures on Prosthodontics given before the Annual Meeting of the Newfoundland Dental Society and the Moncton Dental Society, by Dr. Kenneth Kerr; and on Radiodontic Interpretation, given before the Cape Breton Dental Society by Dr. Hugh M. Eaton.

Dr. James D. McLean, Dean of the Faculty of Dentistry, Dalhousie University, has been

very active in educational matters, having recently attended a conference of Deans of Dental Schools, in Chicago, the Fifteenth Congress on Dental Education and Licensure, the Chicago Midwinter Meeting, as well as a Conference on Admission Requirements, and a meeting of the Council on Dental Education of the Canadian Dental Association.

Halifax County Dental Society

The Halifax County Dental Society held its monthly dinner meeting on Feb. 19th at the Nova Scotian Hotel with the President, Dr. Ed. MacLachlan in the Chair. A very interesting paper on Antibiotics was presented by Dr. Speer, Asst. Professor of Bacteriology, Faculty of Medicine, Dalhousie University.

ONTARIO

Academy of Dentistry

The second stated meeting of the Academy of Dentistry was held on Thursday, February 12th at Osler Hall. The meeting was divided into an afternoon and evening session and the topic was one of current interest "The Use of High Speed."

During the afternoon session, two papers were delivered by men who have had considerable experience in this field, Dr. Roderick A. McEwen of Atlanta, Georgia spoke on "Analysis of High Speed with Special Emphasis on Speeds above 100,000 R.P.M." and Dr. John V. Borden of Washington, D.C., spoke on "Rotary Cutting Instruments at Ultra High Speed."

An evening session was organized in the form of a panel discussion with the two afternoon clinicians present and Dr. James Purves acting as moderator. The early part of the program was devoted to questions which had been drawn up previously and each clinician was asked to give his own viewpoint. These questions seemed to cover most of the problems encountered by the men present but several were entertained from the floor before the close of the meeting.

J. F. M.

QUEBEC

Montreal Endodontic Society

The regular meeting of the Society was held in the form of a Dinner-meeting at the Reform Club, Montreal. The President, Dr. Hyman Israel was in the chair and introduced the Guest Speaker, Dr. Louis Rosen.

Dr. Rosen, Lecturer in Endodontics at the Faculty of Dentistry of McGill University spoke on the subject of "Gaining adequate direct access to Root Canal Orifices and Pulp Chambers". Dr. Rosen augmented his treatise with appropriate slides and diagrams to show a systematic approach and instrumentation for each class of tooth in the arch.

The thanks of the Society were expressed by Dr. A. D. Richardson.

F. L. B.

Montreal Dental Club

Dr. Howard Oliver was recently elected president of the Montreal Dental Club. He succeeded Dr. Robert Harvey.

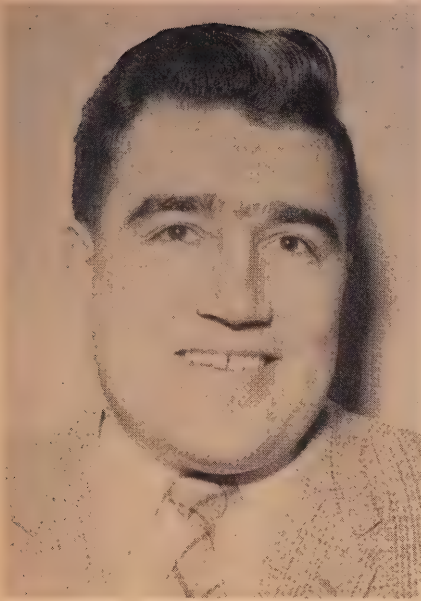
Other officers include: Dr. Douglas Armstrong, treasurer; Dr. Henry Husolo, secretary; Dr. Clayton Bourne, archivist; and directors — Dr. John Van Vleit, Dr. Frank Burns, Dr. John Vincelli, Dr. A. C. Robinson, Dr. Leonard Kent, Jr., and Dr. P. C. Staples.

SASKATCHEWAN

Moose Jaw Dental Society

The first meeting of the Moose Jaw Dental Society was held on January 21st. The new executive conducted the meeting. A guest at the meeting was Major Joseph MacDonald of the Dental Clinic, R.C.A.F. Station, Moose Jaw. Major MacDonald has recently returned from a tour of duty with the R.C.D.C. in Germany.

A clinic on Root Canal Therapy was presented by Capt. M. Albinati of the Dental Clinic R.C.A.F. Station, Moose Jaw, and Dr. E. Eades.



DR. JOHN ZAPARINUK, President of the Moose Jaw Dental Society.



DR. A. D. LEASK, President, College of Dental Surgeons for the Province of Saskatchewan.

Dr. John Zaparinuk was elected president of the Moose Jaw Dental Society for 1959, he succeeds Dr. E. E. Eades. Other officers elected were: Dr. T. Bradley, vice-president, and Dr. Don Kroshus, secretary-treasurer.

Dr. A. D. Leask was nominated and re-elected a member for a two-year term to the College of Dental Surgeons for the Province of Saskatchewan. Further elections within the College nominated and elected Dr. Leask president of the College.

guests of honour were Dr. G. Dewis, president of the Canadian Dental Association, and Dr. D. Gullett, Secretary. The President and Secretary spent the day in Saskatoon and were guests at a luncheon during which acquaintances were renewed and friendships made.

A supper meeting was held and the society was honoured by addresses from the President and Secretary. Dr. Dewis extended an invitation to all present, to attend the CDA convention in Halifax in June. He then spoke of the progress made by the CDA since its inception. His talk served to illustrate the great contributions the CDA and its officers have made to the cause of organized Dentistry in Canada.

Dr. Gullett spoke on the necessity of obtaining specialized assistance in the work of the CDA, particularly in the legal and statistical fields.

A short question period and business meeting followed. Dr. Arthur Singer thanked the guests on behalf of the Society and the meeting was adjourned.

Saskatoon and District Dental Society

On February 23, 1959, the Saskatoon, and District Dental Society held its sixth meeting of the year at the Bessborough Hotel. The

University Hospital Dental Staff

A regular bi-monthly meeting of the dental staff, of the University Hospital was held March 3, 1959.

With Dr. Fernet in the chair, reports were received on the Dental Treatment received by patients in the Hospital during January and February, 1959. Lectures to the Student Nurses, to be given by Dr. C. Halliday were discussed.

Arrangements were completed to have dentists on the staff use the hospital facilities, in connection with the Emergency Dental Service recently inaugurated.

After a business meeting we had the privilege of hearing a lecture on "Neuralgias", by Dr. A. A. Bailey, Neurologist on the Staff of the Hospital and Medical School. He discussed the various types of pain felt in the region of the face, the upper and lower jaws, and other parts of the head. He dealt with their aetiology, and the differential diagnoses between pains originating in the teeth, their surrounding structures and other parts of the jaws.

The lecture was followed by a brisk question and answer period. The speaker was thanked on behalf of the members of the Dental Staff.

L. D. H.

THE ONTARIO DENTAL ASSOCIATION CONVENTION

ROYAL YORK HOTEL, TORONTO

May 10th-13th, 1959

Essayists

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| Dr. M. S. Aisenberg,
Baltimore, Md. | "Diagnosis of Cancer in and About the Oral Cavity". |
| Prof. R. W. Phillips,
Indianapolis, Indiana | "Evaluation of Newer Dental Materials and Factors which Influence the Clinical Success of Restorative Materials". |

Clinicians

- | | |
|--|---|
| Dr. Daniel M. Laskin,
Chicago, Illinois | "The Misuse of Drugs in Oral Surgery". |
| Dr. W. E. Morris,
Cleveland, Ohio | "The Adjustment to the Mouth, Instructions for and the Follow up of Full Dentures". |
| Prof. R. W. Phillips,
Indianapolis, Indiana | "Evaluation of Newer Dental Materials and Factors which Influence the Clinical Success of Restorative Materials". |
| Dr. Morgan L. Allison,
Columbus, Ohio | "Minimizing Trauma in the Treatment of Unusual Soft and Hard Tissue Conditions of the Jaw". |
| Dr. Samuel Rosen,
Hamilton, Ontario | "Progress in Endodontics". |
| Dr. Robert F. Harvey,
Montreal, Quebec | "The Female Periodontal Patient". |
| Dr. Gordon Anker,
Toronto, Ontario | "High Speed Today". |
| Dr. W. A. Shand,
Toronto, Ontario | "A Brief Review of Bridgework". |
| Dr. Blake McAdam,
Toronto, Ontario | "Silver Amalgam Technique as Applied to Two Operative Problems". |
| Dr. Chas. Okun,
Toronto, Ontario | "X-Ray Injury Reports and How YOU may Control these Hazards". |
| Mr. J. Philpot,
Toronto, Ontario | "Dental Photography". |
| Major S. G. Bagnall,
R.C.D.C. | "Post Insertion Phase of Complete Denture Prosthesis". |
| Major A. G. Andrews,
R.C.D.C. | "Oral Antibiotics in Dentistry". |

Dental Public Health Committee

- | | |
|---------------------|------------------------|
| Dr. S. A. MacGregor | "Pedodontic Problems". |
| Dr. K. W. Davey | |

GENERAL NEWS

Dental Seminar in Lethbridge

On February 13th and 14th a Dental Seminar was held in Lethbridge. Eighteen dentists from Lethbridge and Southern Alberta attended. The program of the seminar was designed specifically toward the application of newer knowledge and skills necessary for the better dental care of the child patient.

Sponsored by the Alberta Dental Association in co-operation with the Provincial Government, the seminar featured two specialists from the University of Alberta. They were Dr. C. R. Castaldi, associate professor of Paedodontics and Dr. R. D. Haryett, associate professor of Orthodontics.

Each clinician spent a full day in the dental office with nine dentists and repeated this presentation the second day for the other nine men. The committee in charge of arrangements had examined the children of one of the local schools and had numerous cases on hand for actual examination and diagnosis. Simple appliances were made in some cases and each child received a written report and treatment plan. The material and presentation of each clinician was exceptionally well done.

Out of town men who attended included Doctors Gray, Snedden, Soklofski from Medicine Hat, Drs. Lamb and Sakumoto from Taber, Dr. Falconer from Fort Macleod, Dr. Cy Bryant from Pincher Creek, Dr. Bob Burgman from Blainmore, and Dr. Smith from High River.

Professor R. V. Bradlaw to Succeed Dr. F. C. Wilkinson.

Professor R. V. Bradlaw, C.B.E., D.D.Sc., D.D.S., M.D.S., F.R.C.S., F.D.S. R.C.S. (Eng.), F.D.S. R.C.S. (Edin.), Dean of Sutherland Dental School, King's College, University of Durham, will succeed Dr. F. C. Wilkinson, C.B.E., M.D., D.D.Sc., M.Sc., F.R.C.S., F.D.S. as Director of Studies of the Institute of Dental Surgery, and Director of the Eastman Dental Hospital, when he retires later in the year.

American Dental Association

Appointment of Mr. William Allan Logan as director of the Bureau of Public Information of the American Dental Association has been announced by Dr. Harold Hillenbrand, of Chicago, Association secretary.

Mr. Logan holds a bachelor's degree in economics from the University of Kansas City where he also did graduate work toward a master's degree in the same field.

A.D.A. Membership Reaches 91,488

Membership in the Association reached 91,488 as of November 30th. The figure represented an increase of 2,184 from the same date a year ago and an increase of 2,143 over the 1957 total membership figure of 89,345.

Dr. Reider Sognnaes, professor of oral pathology and associate dean of the Harvard School of Dental Medicine, has been elected secretary of the Section on Dentistry of the American Association for the Advancement of Science. Dr. Sognnaes was elected at the 125th annual meeting of the AAAS held in Washington, D.C., December 26-30.

Harvard University

Specialists in mineral metabolism and salivary physiology as these factors relate to tooth formation and decay have been appointed to positions at Harvard University.

Dr. Roy O. Greep, Dean of the Harvard School of Dental Medicine, announces the appointment (effective immediately) of Dr. James T. Irving as Professor of Anatomy and of Dr. Alexander C. Kerr as Associate in Physiology at the Forsyth Dental Infirmary, Harvard School of Dental Medicine.

Also announced by Dr. Greep is the promotion of Dr. Walter C. Guralnick from Instructor to Assistant Clinical Professor of Oral Surgery.

Dr. Irving will direct a research program devoted to studies of the metabolic relationships between the formation of teeth and bone structures at the Forsyth Dental Infirmary which is academically affiliated with the Harvard School of Dental Medicine.

Dr. Kerr will work with Dr. John B. Macdonald, director of the Forsyth and Professor of Oral Microbiology at Harvard, in studying the bacteria destroying factors in human saliva.

IN MEMORIAM

Robert Malcolm Galbraith — Dr. Robert Malcolm Galbraith of Rochester, N.Y., died on January 6th at the age of 58.

Dr. Galbraith was born at Simcoe but went at an early age to Mount Forest, where he attended public and high school. He graduated from the R.C.D.S., interned at the Eastman Dental Dispensary in 1925 and, the next year set up his practice in Rochester. Dr. Galbraith was a trustee of the Eastman Dispensary.

He was chief of dental services of the 17th General Hospital in World War II, and was stationed in France and England. He was discharged as a colonel. He was a member of the Rochester and New York State Dental Association, he was associated with the General Hospital staff.

As a student, Dr. Galbraith was captain of Toronto Dental team and played several years with a team at the Country Club of Rochester. He was also a member of the Genesee Valley Club.

Interested in conservation, Dr. Galbraith and his wife set out 45,000 Conservation Department evergreen trees at their farm in South Bristol.

Surviving are, his widow, Elizabeth; a daughter, Mrs. D. J. Brooks; two sons, Robert L. and Lyell G.; his mother, and three sisters, Frances, Charlotte and Mrs. H. C. W. Smith.

Whitmore P. Calhoun—Dr. Whitmore P. Calhoun of Edmonton, Alberta, died in January 8th following a heart attack whilst on holiday. He was 63.

Dr. Calhoun was born in Albert, N.B. He graduated from McGill University in 1915 with a B.A., and he graduated in dentistry from the University of Alberta in 1927. Dr. Calhoun practised in Peace River and Fort Saskatchewan, before going to Edmonton.

He served with the Seaforth Highlanders overseas during the First World War. He was a member of Garneau United Church

where he sang in the choir. He was also active at Commercial Lodge No. 81 and was a member of the Ancient and Honourable Scottish Rite.

Surviving are his widow Inez, a son, Dr. A. Venor Calhoun; three brothers, George, Weston, and James, and one granddaughter.

Charles Keith Henderson — Dr. Charles Keith Henderson of Hespeler, Ontario, died in a Toronto hospital on January 23rd following a lengthy illness. He was 84.

Dr. Henderson was born in Guelph in 1875 and graduated from the R.C.D.S. in 1897. He was a life member of the C.D.A.

He was an elder at his church and a former superintendent of the Sunday School, he was also a member of the Independent Order of Odd Fellows and of New Hope Masonic Lodge.

Surviving is one son, V. L. Henderson, and four grandchildren.

Carmen J. Freeman — Dr. Carmen J. Freeman of Beamsville, died at his home on January 27th, following a lengthy illness. He was 79.

Dr. Freeman was born in Nelson Township and had been a resident of the Beamsville district for the last 50 years. He graduated from the R.C.D.S. in 1904 and began his practice in Beamsville and Grimsby. He subsequently closed his Grimsby office.

He was a past chairman of the board of education, former member of the Lawn Bowling Club and a member of the Ivy Lodge, AF & AM.

Surviving are his widow, Florence, a son, Carmen, a daughter, Eleanor, a brother, Tracy, and eight grandchildren.

Joseph Euclid Caza — Dr. Joseph Euclid Caza of Huntington, Quebec, died on January 26th. He was 64.

Dr. Caza was born in St. Anicet and received his early education at Bourget College in Rigaud. He received his dental degree in 1920 from the University of Montreal.

Dr. Caza was past president of Huntington Rotary Club, and also former president of Huntington Catholic School Commission, Knights of Columbus, and Huntington Board of Trade. He was a former alderman of the Huntington town council and a warden of St. Joseph's Church.

He is survived by his widow, Rose, four sons, Raymond, Bernard, Louis and Roger, and a daughter, Mrs. S. Rill.

Ford Butler — Dr. Ford Butler of Aurora, Ontario, died on February 20, 1959. He was 84.

Dr. Butler was born near King City. He graduated from the Royal College of Dental Surgeons and practised in Aurora for 40 years. He retired in 1940 and moved to Toronto.

He was a member of the Rising Sun of Aurora Masonic Lodge and reached the post of Worshipful Master in the Grand Lodge.

Dr. Butler is survived by a son, Dr. Ford Butler; one daughter, Mrs. R. Cowen, and a sister, Mrs. S. Doupe.

William Menzies McCorkindale — Dr. William Menzies McCorkindale of Toronto, died on February 9th.

Dr. McCorkindale, was born in Edinburgh, Scotland, and came to Canada with his parents in 1910. He graduated from the Faculty of Dentistry, University of Toronto in 1926. He had practiced dentistry in Toronto for more than 32 years.

Dr. McCorkindale was a keen sailing member of the Royal Canadian Yacht Club.

He is survived by his wife, Ferol, and two sisters, Mrs. H. Le Fevre Atwood, and Mrs. C. Turner.

Harvey Schwalm — Dr. Harvey Schwalm died in England on February 13, 1959.

Dr. Schwalm was born in Winnipeg, Manitoba and received his early education there. He graduated from the R.C.D.S. in 1914.

During World War I he served in Canada, England, and in Russia in the Archangel Expedition.

William Henry Reid — Dr. William Henry Reid of Toronto, died on January 31, 1959 at the age of 75.

Dr. Reid was born in Kingston, Ontario in 1883 and received his early education there. He graduated from the R.C.D.S. in 1906 and practised in Winnipeg until 1945 when he went to Toronto. He retired in 1950.

Dr. Reid was an examiner in operative dentistry for Manitoba from 1920-1925. He was a life member of Prince Rupert Lodge AF & AM.

He was a Captain in World War I 1915-18 and was discharged as medically unfit in 1918.

Benjamin Gold — Dr. Benjamin Gold of Montreal, died on January 18th.

Dr. Gold was born in Montreal and was a graduate of the High School of Montreal and later graduated in dentistry from McGill University.

After establishing his practice, Dr. Gold joined the Royal Canadian Dental Corps in 1941. He served in Canada on the east coast and in Trenton, Ontario, for the final year of the war. Dr. Gold returned to his practice in 1945.

Surviving are his widow, Rose, and two brothers, Hyman, and Dr. Maxwell Gold.

William Kobewka — Dr. William Kobewka of Yorkton, Saskatchewan, died in January, 1959. He was 31.

Dr. Kobewka graduated from the Dental College of the University of Alberta in 1952. He set up his practice in Yorkton and also became an active member of the Saskatchewan Natural History Society.

Surviving are his widow, Ruby, four daughters, one son, and three brothers.

ANNOUNCEMENTS

1959	Halifax, Nova Scotia	June 21st-24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Ontario)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 10-13, 1959	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
May 28-30, 1959	British Columbia Dental Ass'n. Annual Convention	Hotel Vancouver, Vancouver, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1
May 31-Jun. 3, '59	Western Canada Dental Society Convention	Banff Springs Hotel, Banff, Alta.	Dr. C. S. Lea,	708 Greyhound Bldg., Calgary, Alberta
Sept. 10-12, 1959	American Academy of Gold Foil Operators	New York City, N.Y.	Dr. C. C. Latham	P.O. Box 266, Coronado 18, Calif.
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden	183 Metcalfe St., Ottawa, Ont.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward	1414 Drummond St., Ste. 309, Montreal
May 15-18, 1960	Ontario Dental Ass'n. Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham	230 St. George St., Toronto 5, Ont.
July 11-14, 1960	11th Triennial Pacific Coast Dental Conference	Portland, Oregon, U.S.A.	Dr. K. R. Jensen	1033 S.W. Yamhill St., Portland 5, Ore.

CANADIAN SOCIETY OF DENTISTRY FOR CHILDREN

Convention Dates

1959	Saturday, May 9th	Toronto
1960	Saturday, May 14th	London
1961	Saturday, May 20th	Toronto

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

AMERICAN INSTITUTE OF DENTAL MEDICINE

— as of July 1959 to be known as

THE AMERICAN INSTITUTE OF ORAL BIOLOGY

The 16th Annual Meeting of the American Institute of Dental Medicine will be held in Palm Springs, California, November 8-12, 1959. The essayists will be: Dr. Franz Alexander, Dr. Herman Becks, Dr. Douglas Gordon Campbell, Dr. Thomas K. Cureton, Dr. Marie U. Nylen, Dr. Max. Sadove, Dr. Reidar F. Sognaes, and Dr. Stafford L. Warren.

Direct enquiries to: The American Institute of Dental Medicine, 2240 Channing Way, Berkeley 4, California.

CLASS 473 DECEMBER

Fifteenth anniversary plans well under way at Royal York — Monday, May 11th. Room is reserved. For further information write or phone Al Hooks or Bob Green.

NOTICE OF MEETING

The Canadian Academy of Periodontology will hold its annual meeting in Toronto at the Royal York Hotel — Monday, May 11, 1959 — 9.30 a.m.

L'Association Dentaire Canadienne.

JOURNAL

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Numéro 4

avril 1959

Considérations sur l'hypnose*

par PAUL DIONNE, B.A., D.D.S., Joliette, P. Qué.

Je sais que vous connaissez déjà la valeur de l'hypnotisme, tant en médecine qu'en dentisterie. J'omets donc les données élémentaires qui ont fait l'objet de considérations dans le passé. Je me permets auparavant de vous rappeler, à titre de président, que le but de notre société est surtout de promouvoir l'étude des techniques hypnotiques, celle des manifestations et de la nature essentielle de l'hypnose et d'encourager les recherches dans ce domaine. Aussi, j'espère que chacun des membres de cette société sera appelé à donner une démonstration de ses qualifications et, de cette façon, nous monterons les échelons ensemble.

Légalement et médicalement parlant, nous pouvons employer l'hypnose chez nos patients parce que nous avons reçu un certain entraînement qui, avec le temps et des études appropriées, se perfectionnera.

Plusieurs confrères désireraient employer cette science, mais ils hésitent parce qu'ils ne connaissent pas suffisamment les techniques ou craignent un échec. Comme le pilote qui vole en solo pour la première fois, le premier essai est sûrement le plus difficile, spécialement si l'opérateur est craintif, manque de confiance et transmet involontairement cette hésitation au patient. Ce premier facteur cause presque toujours un échec. D'autres confrères, au contraire, ayant utilisé l'hypnotisme dans leur pratique, ont soudainement perdu leur enthousiasme, ayant trop exigé probablement de l'hypnose, c'est-à-dire ayant crû à son emploi facile dans toutes circonstances. Ils ont péché par excès, en dirigeant mal l'emploi de cette science comme adjuvant et non comme remède à tout; et c'est là que des connaissances psychologiques plus approfondies leur auraient été utiles.

J'ai crû que le "choix psychologique des sujets" vous intéresserait et que vous pourriez tirer profit des considérations personnelles que je pourrais faire à ce

*Conférence donnée à la première réunion officielle de la Société dentaire-médicale d'hypnose clinique de la Province de Québec, mardi, le 13 janvier 1959, à la Faculté de Chirurgie Dentaire de l'Université de Montréal.

sujet. Mon intention est de vous donner des jalons pour le choix des sujets, en m'appuyant à la fois sur les conclusions des meilleurs auteurs, en particulier LECRON et BORDEAUX, WEITZHENHOFER et un peu sur mon expérience personnelle. Ce qui suit est donc en vrac, mais je ne vise pas à un travail académique. Abordons la suggestibilité des sujets et de leurs dispositions à subir l'hypnose à ses différents degrés. Posons en principe avec LECRON que le "degré de suggestibilité ou de susceptibilité à l'hypnose se mesure par la profondeur de la transe atteinte par le sujet". Tous connaissent les différents étages classiques de la transe hypnotique: légère, moyenne, profonde. Retenons bien que même un expert peut difficilement différencier les étapes de l'hypnose, car les phénomènes d'un étage peuvent se retrouver dans un autre. Et l'état de transe subit des fluctuations à la manière des ondes.

Avant d'entreprendre le développement en profondeur de l'état de transe, il est bon tout d'abord de donner un ou deux tests dits de suggestibilité. Si on les réussit, il est ensuite plus facile d'accroître la confiance et du sujet et de l'opérateur vis-à-vis de l'induction en hypnose. Ces tests ne sont que des indicateurs, mais s'ils sont remarquablement positifs, l'on peut assumer que le sujet sera apte à l'hypnose.

La chute en arrière semble être l'un des meilleurs indicateurs de la suggestibilité et l'un des plus simples. LECRON et BORDEAUX le présentent ainsi: "On demande au sujet de se tenir debout, droit, les pieds ensemble, les épaules en arrière, la face tournée vers le plafond et fixant un point (ou bien les yeux fermés, mais tournés vers le haut), l'opérateur se tenant en arrière". Les indications suivantes ou d'autres semblables sont données: "Je voudrais que vous vous imaginiez droit comme une planche. Laissez vos genoux devenir rigides et tout votre corps droit et rigide. Maintenant, fermez vos paupières, tenez la tête bien droite et les yeux toujours tournés vers le plafond. Ne craignez pas, car je vous attraperai, mais vous allez

vous sentir attiré en arrière. Vous allez sentir le besoin de tomber en arrière. N'y résistez pas. Déjà vous penchez en arrière, vous balancez, vous renversez en arrière. Vous tombez, tombez en arrière, tombant, tombant de plus en plus..."

Les sujets les plus suggestibles tombent les deux pieds toujours ensemble, ne reculant pas d'un pied pour se retenir, et voilà quelque chose de très difficile à accomplir à l'état de veille complète. S'il n'y a aucune tendance à obéir à la suggestion, l'on peut employer l'artifice suivant qui semble très efficace: se tenant derrière le sujet, l'opérateur place ses deux mains sur les épaules, le balance doucement, puis le remet en position normale, pressant fermement sur les épaules, prenant garde de ne pas tirer en arrière. D'autres suggestions sont données de chute en arrière et soudain les mains sont levées. Dans la plupart des cas, il y aura un mouvement de chute en arrière immédiatement. La plupart des sujets seront impressionnés par leur réaction et dans la suite accepteront plus facilement l'idée qu'ils sont de bons sujets.

En questionnant les patients, il est souvent possible de choisir des sujets sûrs, spécialement si l'on apprend qu'ils marchent ou parlent dans leur sommeil, à moins qu'il y ait quelque résistance inconsciente. Donc, avant de tenter d'hypnotiser, il semble préférable de faire un test de suggestibilité. La plupart des gens, ignorant l'hypnose scientifique, sont sous l'impression d'être de mauvais sujets, croyant leur volonté trop forte, ou bien que céder à l'hypnose est un signe de faiblesse. Il faut immédiatement bannir cette idée par une bonne explication et créer ce qu'on appelle le "mind-set". Ensuite, un test positif de suggestibilité pourra complètement rassurer.

Comme nous sommes réunis pour étudier, je me permets donc de soumettre un certain point de vue relativement aux tests de suggestibilité, espérant ainsi ouvrir une porte non pas à la discussion, mais pour avoir votre opinion. Ne cherchons pas à imiter les hypnotiseurs pro-

fessionnels dans leurs méthodes et leurs approches. Qu'il n'y ait rien de brusque et de violent; faites en sorte que le patient constate la différence entre ce que vous ferez et ce qu'il sait des "donneurs de spectacles". L'émotion, pour qu'elle soit efficace, doit être un moyen de conviction. Il est bon, certes, d'employer des expériences probantes et de les faire accomplir par le sujet (par exemple, lorsqu'on dit à un sujet de respirer profondément, de se détendre, et qu'il sentira ses jambes devenir plus lourdes, nous nous basons sur une réalité, ce qui est probant pour le sujet). Par contre les expériences sensationnelles employées par les charlatans et les exploitants de cette science, si elles échouent, vous feront perdre votre prestige (ex: le Hand Clasp). Donc, afin d'aider le sujet et n'y rien perdre, présentez la chose comme une expérience d'auto-suggestion. Alors, s'il y a échec, le patient l'attribuera à sa maladresse et non à vous; il ne perdra pas confiance en vous. Cependant l'échec est toujours regrettable, car il risque d'implanter dans l'esprit du sujet l'idée que l'auto-suggestion est difficile ou que lui-même n'y a aucune aptitude. Aussi devrait-on employer ces méthodes qu'à coup sûr, c'est-à-dire chez les sujets particulièrement sensibles, émotifs, ou encore après avoir observé un certain degré d'hypnose ou de suggestibilité accrue, ou encore comme expériences progressives (deepening). En général, les expériences d'inhibition (catalepsie, impossibilité d'accomplir tel ou tel acte simple, etc) ont de bons effets lorsqu'ils réussissent, parce qu'elles sont émotionnantes, et surtout qu'elles impressionnent. En réalité, dans le "hand clasp", plus le sujet essaie de desserrer les mains, plus il a contraction; c'est en quelque sorte un effort converti.

Quel pourcentage de la population peut-on hypnotiser? Jusqu'à quel point? Avec quelle rapidité? Disons que les étudiants en général, les "teen-agers", sont parmi les meilleurs sujets. Evidemment, l'attitude, l'habileté et le prestige de l'hypnotiseur sont très importants et la sélection des sujets est un facteur vital. Les gens

de la campagne semblent plus suggestibles que ceux de la ville qui sont plus blasés, plus cérébraux. D'une manière générale, on peut retenir que 25% vont en transe légère, 35% en transe moyenne et 25% en transe profonde. Une personne sur quatre semble donc pouvoir se rendre en transe profonde. Plus une personne est intelligente, toutes choses étant égales par ailleurs, meilleure sujet elle est. Il faut donc écarter les malades mentaux et les faibles d'esprit. Dans l'opinion populaire, les femmes sont considérées comme étant plus suggestibles que les hommes. La littérature scientifique est presque unanime à rejeter cette conception; cependant avec HULL il faut admettre une légère différence en faveur des femmes. Les femmes semblent plus portées à se faire hypnotiser que les hommes, semblent moins craindre le procédé qu'eux et sont plus curieuses d'expérimenter l'état de transe. Les enfants sont presque 100% hypnotisables. Le sommet de la courbe entre 5 et 16 ans serait 8 ans d'après une étude statistique de MESSERSCHMIDT.

On entend dire souvent: "Je suis certain que l'on ne peut m'hypnotiser parce que je suis trop nerveux" ou bien: "parce que ma volonté est trop forte et mon esprit trop actif". Beaucoup de gens pensent ainsi et l'hypnotiseur doit d'abord enlever ce préjugé avant de procéder, autrement il y aura échec. Un test de suggestibilité suffit ordinairement avec le "mental-set". Dans certains cas, le prestige et les affirmations d'un expert suffisent. Les sceptiques les plus bruyants peuvent parfois rendre les armes assez rapidement, car ils ne sont pas si sûrs de leur invulnérabilité. Il y a donc ceux qui sont sceptiques consciemment et qui dans leur inconscient conservent un doute sur leur invulnérabilité. Il y a aussi ceux qui veulent être hypnotisés, et qui, inconsciemment ne le veulent pas. L'inverse est aussi vrai. Parmi les plus difficiles à hypnotiser, il y a ceux que les Américains appellent les "bullheaded", ceux qui connaissent toute l'affaire, qui n'ont aucunement l'intention de suivre les directives de l'hypnotiseur même s'ils prétendent coopérer. Habituellement, on

perd son temps d'essayer l'induction de telles personnes. Cependant, un hypnotiseur habile et bien au courant de la psychologie de la personnalité peut arriver à tourner ces traits de caractère en sa faveur. En général, les types "pykniques" (trapus, courts, pas de cou, à tendance cyclothymique, c'est-à-dire à des périodes tantôt de dépressions, tantôt d'euphorie) sont d'assez bons sujets.

Je recommande l'article d'ERICKSON intitulé: "Naturalistic Techniques of Hypnosis," paru dans le premier numéro du "The American Journal of Clinical Hypnosis", de juillet 58. En bref, il "s'agit d'accepter la situation telle qu'elle se présente et de l'utiliser telle qu'elle, sans essayer d'en changer la structure psychologique". Au contraire, le comportement du sujet est une aide déterminée et une part actuelle de l'induction.

Permettez-moi de vous rapporter une expérience personnelle au bureau d'un confrère de Montréal, alors qu'une patiente ayant accepté de se faire hypnotiser par moi, me mit au défi de lui faire fermer les yeux, ayant déjà été en transe légère auparavant et durant au moins un quart d'heure. Au cours de l'induction, j'ai dû changer de tactique et renforcer ma suggestion que "plus elle résistait, plus ses paupières s'appesantissaient", et à force de le lui répéter, elle ne put résister et l'effet attendu se produisit. Elle fut par la suite en transe une heure durant. Non pas qu'elle ne pouvait plus résister, car au fond elle désirait retourner en transe pour des soins dentaires, mais elle essayait tout de même de me rendre la tâche plus difficile.

La personne qui est très anxieuse d'être hypnotisée est encore un sujet difficile. Il faut de la passivité; une coopération trop active produit un effet négatif. Il faut donc montrer à se détendre, physiquement et psychologiquement. Il faut également montrer à être réceptif.

La personne cérébrale, qui analyse toute la situation, le type subtil, est encore un sujet difficile. Malgré son bon vouloir de coopération, il est porté à l'analyse et se

rend difficilement passif ou même concentré sur un point ou une idée. Tout comme le type qui voltige, qui papillonne. Avec de telles personnes il faut diriger ses suggestions de manière à utiliser leurs caractéristiques personnelles, leur état d'esprit, leur "tête de mule", leur anxiété, leur coopération trop intense et leur esprit analytique. Evidemment ceci demande beaucoup d'ingénuité, d'intuition, un esprit d'observation aiguisé et des connaissances psychologiques sérieuses. Pour revenir à ERICKSON, il faut s'orienter entièrement sur ce que fait ou dit le sujet, utilisant à plein ce qu'il offre et son genre de personnalité. Le succès de l'hypnotiseur est d'abord une question de compréhension, de perspicacité et de souplesse d'adaptation. Il ne faut pas confondre suggestibilité avec crédulité, naïveté, bien que le naïf et le crédule soient de fait très suggestibles. FRIEDLANDER et SARBIN ont trouvé peu de relation entre la suggestibilité et la personnalité ou les traits de caractère. DAVIS et HUSBAND concluent seulement à de petites différences dans la suggestibilité des névrosés, des introverts, des extraverts, des soumis et des egocentriques. Mais ces conclusions sont discutables. D'après certains auteurs, en général, les introverts, caractérisés par la pensée subjective, où le monde intérieur prédomine, sont plus facilement hypnotisés que les extraverts caractérisés par une pensée objective et où le monde extérieur joue le rôle dominant. McDOUGALL donne l'explication que l'introvert est plus passible de dissociation que l'extravert. Cependant JUNG affirme une relation directe entre la suggestibilité et l'extraversion. GROSS croit aussi qu'une fonction secondaire courte doit être associée avec la susceptibilité hypnotique, c'est-à-dire que le type présentiste, selon la classification de HEYMANS et WIERMSMA est meilleur sujet que le type secondaire qui est à retentissement profond. Donc, l'extravert est plus suggestible que l'introvert. Cependant plusieurs auteurs ont trouvé que les femmes introvertes sont plus suggestibles que les extravertes. Je me demande si cette antinomie ne pourrait se

résoudre en disant que les extraverts sont des sujets plus rapides mais moins profonds, tandis que les introverts, plus lents, seraient cependant des candidats à des transe plus profondes. Autrement dit, le conditionnement des introvertis est parfois plus long parce qu'ils analysent, mais lorsque sous hypnose, ils vont généralement à un degré plus profond.

WEITZENHOFFER donne des opinions à l'effet que les extraverts seraient plus suggestibles à l'hypnose que les introverts. LECRON et BORDEAUX rapportent que la plupart des auteurs qui ont écrit sur l'hypnotisme croient que les introverts sont plus suggestibles que les extraverts. Nous avons cru résoudre cette apparente antinomie en disant que les introverts sont moins rapides mais vont en transe plus profonde, tandis que les extraverts, plus rapides, vont en transe moins profonde. Ces théories sont peut-être fautives, car nous avons eu des introverts et des extraverts qui sont entrés en transe profonde très rapidement, et particulièrement des extraverts. La plupart de ces sujets ont subi des tests de personnalité, mais nos statistiques actuelles sont trop peu nombreuses pour être concluantes.

Cependant, voici du moins au point de vue théorique, une opinion qui semble confirmer notre position tout en la précisant: "La suggestibilité peut dès lors être différente par sa force, son intensité et sa direction. Un sujet très suggestible a beaucoup de réponses couleur-forme, c'est-à-dire c'est un extratensif ou extravert; un sujet peu suggestible en a peu lorsque la suggestibilité est intensive, c'est-à-dire difficile à atteindre mais durable; on trouve de nombreuses réponses kinesthésiques (c'est un signe d'introversité) à côté des réponses couleur-forme; quand elle est extensive, c'est-à-dire facilement atteignable, mais peu durable, on n'observe pas ou peu de K à côté des CF." (EWALD BOHM)

Etudier la personnalité de nos patients, essayer de reconnaître l'individualité qui les distingue en observant leur comportement externe et interne, c'est ce qu'on appelle la psychologie de la personnalité.

A l'Université Harvard, on a fait une étude sur l'aptitude à l'hypnose en rapport avec les traits de la personnalité. L'opinion populaire était autrefois que les personnes suggestibles étaient classées parmi les personnes anormales (CHARCOT). Les expériences de laboratoire et les études ont prouvé aujourd'hui et d'une façon définitive qu'il n'y a pas de relation entre l'aptitude à être hypnotisé et la suggestibilité avec l'anormalité et la tendance à la névrose; et sont de cet avis les auteurs tels que: DAVIS, HUSBAND, BARTLETT, MESSER et autres. BAUMGARTNER conclut même que la suggestibilité est un trait de personnalité très désirable. Pour en arriver à cette conclusion, on a choisi dix-huit sujets, hommes et femmes, parmi des étudiants et des diplômés qui n'avaient jamais été hypnotisés et on a suivi la même procédure pour tous, c'est-à-dire le même genre d'induction d'une durée de vingt minutes avec les mêmes suggestions post-hypnotiques. Puis on utilisa l'échelle de susceptibilité hypnotique de DAVIS et HUSBAND afin de les classer par ordre. Ensuite, on leur fit passer le test de tempérament de GUILFORD-ZIMMERMAN qui consiste en 300 items mesurant dix traits de personnalité. D'après les coefficients de corrélation entre le rang de susceptibilité hypnotique et le rang des traits de tempérament, il en est résulté ceci:

- 1 — plus un sujet est apte à l'hypnose, moins il tend à la "contrainte de soi", c'est-à-dire qu'il tend à être plutôt "happy-go-lucky" que "serious-minded".
- 2 — plus un sujet est apte à l'hypnose, plus il tend à être "ascendant", c'est-à-dire plus il tend à avoir des habitudes de "meneur", de chef, moins il tend à être soumis, hésitant.
- 3 — plus un sujet est apte à l'hypnose, plus il tend à être sociable.
- 4 — plus un sujet est apte à l'hypnose, plus il tend à être émotionnellement stable.
- 5 — plus un sujet est apte à l'hypnose, plus il tend à être objectif, c'est-à-dire que plus il tend à être "non-

émotif", moins il tend à être hypersensible, renfermé, soupçonneux.

- 6 — il ressort également une faible indication que plus un sujet est apte à l'hypnose, plus il tend à être cordial ou de bon voisinage.
- 7 — plus un sujet est apte à l'hypnose, moins il tend à être le type penseur, c'est-à-dire que moins il tend à être le type de réflexion et de méditation, plus vraisemblablement il est porté à une activité extérieure. (D'ailleurs WHITE a trouvé une grande corrélation entre l'extraversion et la suggestibilité hypnotique).
- 8 — la portée, la légère corrélation positive trouvée entre la suggestibilité hypnotique et la masculinité est discutable, puisque là l'échantillon ne comprenait que les chiffres de 11 hommes et 7 femmes. Cependant, si on pouvait procéder à un échantillonnage plus nombreux, on pourrait accepter, au moins pour la catégorie des étudiants, que le type "Roger-bon-temps" est facilement suggestible.

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Les hystériques sont habituellement d'excellents sujets, mais il y a des exceptions. Il faut se défier des hystériques latents, pour ne pas encourir de déclencher ou d'éveiller leur hystérie. (Les hystériques sont égocentriques, infantiles, pleurent et rient souvent pour rien; s'ils font semblant de perdre connaissance, ils ne se font pas mal en tombant; ils veulent attirer l'attention)

Les personnes sujettes à l'insomnie sont difficiles à hypnotiser. Avec eux, en tous cas, il faut éviter le mot "sommeil" et employer surtout le mot "détente".

Généralement l'alcoolique est un bon sujet. La plupart des névrosés sont nerveux et on doit leur apprendre à se détendre avant d'obtenir de bons résultats.

Autre chose; la position dans la vie semble avoir une influence directe sur la suggestibilité. Ceux qui commandent ou qui habituellement donnent des ordres

sont des sujets plus difficiles, tandis que les serviteurs, bonnes, travailleurs, soldats, matelots, et tous ceux qui ont l'habitude d'obéir font généralement de bons sujets. La question de prestige est toujours importante. C'est pourquoi, il est difficile habituellement d'hypnotiser des parents, des amis intimes. La familiarité diminue le prestige et décroît la suggestibilité.

Après vous avoir présenté un choix varié de sujets avec une opinion assez différente chez les auteurs contemporains, vous pouvez conclure avec moi qu'il n'y a encore rien d'absolu, et que malgré bien des constatations, la discussion demeure ouverte.

Maintenant, je passe à quelques suggestions pratiques, dont vous tirerez j'espère quelque profit. Tout d'abord, je me permets de vous rappeler que vous devez faire de l'hypnose chacun dans votre sphère seulement. N'hésitez pas à consulter un confrère spécialiste en médecine, psychiatrie ou autre, si vous en sentez le besoin.

Au cours de l'induction, si vous défiez le patient d'une façon quelconque, (hand clasp, etc.) prenez bien votre temps et soyez certains de l'effet attendu, autrement vous allez regresser dans votre induction.

Complimentez votre patient dans ses réponses aux suggestions données. Ceci aura pour effet d'augmenter le rapport, assurant le patient du progrès, de sorte qu'il deviendra plus coopérant.

Autant que possible, ne montrez pas l'auto-hypnose à vos patients, excepté si nécessaire, mais donnez leur plutôt la suggestion qu'ils feront usage de l'hypnose lorsqu'ils seront en présence d'un dentiste, médecin ou psychiâtre qualifiés.

Laisser le sujet s'éveiller de lui-même, soit en comptant, soit en disant les lettres de l'alphabet, a d'habitude un bon effet psychologique; en réalisant qu'il est maître de lui-même, le sujet aura confiance davantage et avec une série de chiffres, le réveil sera moins brusque.

Souvent la musique nous rend service durant l'induction; je parle ici d'une mu-

sique qui calme et aide à la détente, au repos. Un bureau bien tenu, de la courtoisie, de la propreté, voilà encore ce qui augmente le prestige de tout professionnel.

Lorsque vous avez un sujet sous hypnose et dont le comportement change d'une façon soudaine, par exemple s'il se courbe ou se raidit, ou bien si la couleur de son visage change en plus de sueur au front, soyez calme et éveillez immédiatement votre patient en ayant soin de lui donner au préalable une suggestion post-hypnotique de confort, de bien-être. Ne répétez pas vos séances d'hypnotisme avec de tels sujets. Cependant notez bien que dans certains cas, au début de l'induction, vous aurez des cas où le pouls sera plus rapide, et aussi la respiration, les paupières cligneront, et même quelque-fois des rougeurs apparaîtront sur la peau; ces choses peuvent être bien normales chez certains patients sensitifs.

Surveillez les patients qui vous arrivent semblant être sous une forte tension, avec une crainte excessive, tremblant, pleurant ou riant pour rien, à la peau pâle et moite, ou transpirant d'une façon excessive. Ce sont peut-être les signes de conflits émotionnels et je conseille à ceux qui ne sont pas psychiatres de ne pas employer l'hypnose chez ces patients, à moins d'être préparés à toute éventualité et donner les suggestions en rapport avec le diagnostic posé.

Parfois une suggestion générale, qui tient en quelques mots et sans trop de détails, est préférable à une suggestion détaillée, ce qui arrive à "penser que c'est là où porte l'effort que la suggestion agit le moins bien. (BEAUDOIN) "Car si l'on fait travailler un sujet avec trop d'effort et d'intensité, la suggestion est alors bloquée par l'effort et le patient peut réagir d'une façon tout-à-fait contraire."

La voix de l'opérateur doit toujours être douce et rassurante. Un ton de voix basse, monotone, aux phrases lentes, est effectif chez la plupart des patients.

Disons enfin que dans toutes nos techniques, il y a des nuances, et c'est par

l'expérience personnelle que nous les découvrons et les adaptons d'une façon qu'elles soient senties plutôt que comprises.

En terminant, permettez-moi de relever l'affirmation d'un médecin, parue dans Le Journal Illustré, édition du 24 janvier 1959, concernant l'accouchement sous hypnose, et à savoir: "qu'il n'a pas confiance que l'hypnose puisse jouer un rôle efficace." Ce confrère considère que l'obstétricien, pour faciliter le travail, doit justement faire appel à toutes les facultés de la patiente au moment où elle va donner le jour à son enfant. "Une femme sous hypnose, c'est-à-dire *inconsciente*, dit-il, ne saurait donc s'aider aussi bien qu'elle peut le faire alors qu'elle est parfaitement consciente".

Mon humble opinion est que ce médecin n'a pas l'esprit scientifique en généralisant de la sorte, car il n'a pas le droit de dire qu'un sujet sous hypnose est inconscient puisqu'il comprend tout, parle, donne ses impressions et, qu'au contraire, il est en contact étroit avec l'opérateur et peut coopérer beaucoup mieux. Seulement, il faut insister sur le fait que l'opérateur doit avoir de l'intuition, de la psychologie et de la compétence. Nous ne prétendons pas que l'hypnose est une panacée et peut s'adapter à tous les cas; ce n'est qu'un adjuvant et je réfère à certains auteurs (gynécologues) qui affirment qu'en obstétrique, "l'hypnose remplit toutes les qualifications requises pour un anesthésique idéal et *n'altère pas* le mécanisme normal de travail". Dans le volume intitulé: PSYCHOSOMATIC GYNECOLOGY de KROGER & FREEDY (éd. 1956) nous lisons: "Selon J. B. DeLee, considéré comme le père de l'obstétrique moderne, le seul anesthésique qui est sans danger est l'hypnose . . ., ce remède inoffensif et puissant. Nous croyons que l'hypnose remplit et réalise toutes les conditions de l'anesthésie idéale. Nous prétendons que l'hypnose a d'immenses possibilités pour faire de l'accouchement une expérience psychologique *gratifiante* qui peut satisfaire les besoins les plus profonds de la mère".

Donc, pour résumer, disons qu'un sujet hypnotisé n'est jamais inconscient et ce qui se passe dans l'état hypnotique ne change rien à ses habitudes et il demeure tel que dans l'état de veille. Quant à l'hypnose ou du moins l'hypnoanesthésie, elle est comparable avantageusement à la

narcose; et KROGER & FREEDY affirment positivement que beaucoup "d'enfants bleus" et d'accidents sont dûs à des doses trop massives d'anesthésiques chimiques, tandis que l'hypnose a l'avantage de produire une anesthésie naturelle.

600, Boulevard Manseau.

Hypnotisme vs facteur "temps"

par PIERRE ROULEAU, D.D.S., Montréal.

L'emploi de l'hypnotisme en art dentaire devient de plus en plus fréquent, aussi la vogue dont jouit à juste titre cette méthode d'obtenir une détente du patient contredit des affirmations publiées dans le *Journal de l'Association dentaire canadienne* (no 24, Sept. 1958, p. 571) au sujet du temps requis pour amener le patient dans un état favorable à l'induction.

Selon l'auteur, ce facteur est d'une telle importance que la pratique de l'hypnose en chirurgie dentaire est impraticable avec l'horaire des traitements prodigués tous les jours par le dentiste. L'hypnose exige de l'opérateur une compétence judicieuse et ses effets ne donnent que des avantages. Les détracteurs de cette méthode la connaissent mal ou ne l'ont pas étudiée suffisamment: ils n'y croient pas et cherchent des prétextes pour la calomnier. L'une des principales objections qu'on soulève contre elle consiste précisément dans cette prétention qu'elle exige beaucoup de temps pour créer le "rapport" entre opérateur et opéré. Le temps requis pour l'induction de l'hypnose est court; c'est l'étape préliminaire où le dentiste prend contact avec son patient qui peut être plus ou moins longue. Au cours de cette première phase, l'opérateur doit prendre le temps de connaître son patient et de gagner sa confiance. Cette période de reconnaissance mutuelle est de pratique courante pour tous les dentistes chaque fois qu'ils reçoivent un nouveau patient et à toutes les occasions où ils ont à donner un traitement. Que le dentiste se serve ou non d'hypnotisme, il doit conditionner

son patient pour le traitement. Ce contact peut être plus ou moins long selon les tempéraments; il est circonscrit par les notions psychologiques de l'opérateur, son habileté personnelle et sa technique d'approche. Le rapport entre le dentiste et son patient s'établit quand celui-ci a compris clairement le motif de l'intervention et la façon dont il doit collaborer. La dernière résistance se vaincra quand le malade se convainc qu'il s'agit de son bien-être. On assiste alors à un état de suggestion qui se compare aux relations qui existent entre professeur et élèves; le professeur fournit des directives, l'élève les fait siennes; le patient est disposé à recevoir et à observer attentivement les conseils du dentiste pour se détendre et entrer en transe hypnotique. Le dentiste pourra à cette phase conduire son sujet dans une transe plus ou moins profonde selon la suggestibilité de celui-ci.

Le même sujet au cours des séances subséquentes, bénéficiera de sa première approche; sa confiance a été gagnée et l'a rendu plus réceptif aux suggestions. L'opérateur utilisera la technique d'induction la plus appropriée, comme il choisit les médicaments adaptés aux circonstances.

Tout patient satisfait des bons résultats obtenus au cours du traitement devient un propagandiste de la méthode. L'auteur de l'article cité au début, s'il a exercé un tant soit peu l'hypnodontie, a dû faire cette constatation. Le patient satisfait prédispose ses proches; quand ceux-ci se présentent chez le dentiste, ils sont partiellement conditionnés et acceptent volontiers

ses conseils pour l'emploi judicieux de l'hypnodontie. La phase d'initiation est alors plus courte; ils connaissent les rudiments de la méthode; ils se détendent très vite et subissent rapidement les effets de la technique d'induction choisie par l'opérateur pour entrer en hypnose. Le patient doit être convaincu de la compétence de l'opérateur et de la valeur de l'hypnodontie. Le dentiste versé dans cette science aura d'ailleurs tôt fait de choisir ses sujets pour éliminer ceux qui ne peuvent collaborer. L'hypnose est une science dont il faut posséder à fond la technique et la théorie. Il ne suffit pas de lire quelques traités pour opérer avec

compétence, il faut avoir étudié avec des maîtres qui possèdent bien la psychologie et l'art de l'hypnose.

Enfin, l'hypnose n'est pas un jeu de société, mais bien une science qui ne peut être utilisée que dans un but thérapeutique. Le praticien consciencieux se refusera à toute démonstration et à tout usage extra-clinique. L'hypnodontie n'est pas une panacée, elle s'utilise dans certains cas, elle ne remplace rien; elle n'est qu'une autre méthode ajoutée à celle que le dentiste possède déjà pour faire ses traitements avec le moins de traumatisme psychique possible.

De la digestion.

par PAUL-E. POITRAS, D.D.S., Montréal.

Les dents naturelles et artificielles sont nécessaires à l'homme qui veut garder, autant que possible, une bonne santé. Les dents absentes, cariées n'ont jamais favorisé la saturation salivaire du bol alimentaire, elles sont la cause d'une mauvaise mastication, le résultat: digestion incomplète.

La diathétique nous enseigne que la nature s'accommode pendant des années des excès du boire et du manger mais à un moment elle reprend ses droits et ne tolère plus de manquements à un régime.

La première phase de l'assimilation des aliments se fait dans la bouche quand la ptyaline (ferment soluble de la salive) se mélange au bol alimentaire et aide les sucs gastriques, sécrétés dans l'estomac, à ne pas interrompre le travail commencé.

Combien d'ulcères d'estomac, de dyspepsies, de rhumatisme, d'embonpoints auraient été évités par une mastication convenable.

Que les obèses protestent!!!

Le broyage de la nourriture par les dents est un mécanisme nécessaire à l'ingestion. Les aliments, après la préhension des lèvres, sont coupés par les dents incisives, déchirés par les canines, triturés par les prémolaires et les molaires; pen-

dant ce temps, ils sont saturés de salive qui, en plus de lubrifier les muqueuses, transforme l'amidon en dextérine par l'action de la ptyaline et favorise la déglutition du bol alimentaire après cette première métamorphose. La bouchée introduite dans la cavité buccale est humectée, écrasée, brisée, réduite en bouillie, mais demeure encore dépendante de la volonté, elle reste donc subordonnée à nos impressions; dirigée à l'arrière-bouche, elle descend vers l'estomac où les éléments extérieurs cessent toute influence sur sa marche.

Le bol alimentaire est composé différemment selon l'endroit où il est pris; on se rend compte de ce changement quand des échantillons, extraits de la bouche, de l'estomac ou de l'intestin, sont analysés. Dieu voulut dans sa sagesse infinie que la substance absorbée ait un goût spécial. Est-elle d'une saveur appétissante: elle est mastiquée avec une satisfaction plus grande qu'un aliment vil. Est-elle d'un goût déplaisant? est-elle d'un goût désagréable aux papilles? Elle est avalée rapidement ou rejetée; dans la bouche, l'individu a toujours la liberté d'accepter ou de refuser l'aliment. Mais lorsque le bol alimentaire sera dans l'œsophage en

route vers l'estomac rien de ce moment (énergie, caprice, fantaisie) pourra entraver la fonction des organes de la digestion; elle se continuera normalement ni plus rapide ni plus lente, les mouvements réflexes contrôleront la formation des sucs gastriques et l'assimilation se poursuivra sans qu'aucun effort fonctionnel en change la marche.

Le cerveau, principe des mouvements, n'a plus rien à voir; dès que le bol alimentaire, même toxique, quitte l'arrière-bouche, il est abandonné aux nerfs et aux muscles de l'estomac et de l'intestin; le

travail commencé se continue; ingéré, il n'est plus sous l'influence du dehors.

En résumé, les êtres vivants ont le loisir de cracher l'aliment tant qu'il est dans la cavité buccale, mais, à la déglutition, les forces motrices de l'organisme deviennent des actes réflexes à moins qu'un vomissement soit provoqué à la suite d'une irritation du palais mou.

Ce don de la digestion, venant ni de la tête, ni du cœur, ni de l'intelligence, ni du tréfond de l'être, est donné à la naissance, existe pendant la vie et deviendra inopérant à la mort.

2043 rue Saint-Denis

Nouvelles du Corps dentaire Royal Canadien

Journée d'Hygiène dentaire

Le personnel du C.D.R.C., à l'invitation du Comité d'Hygiène dentaire de l'Association dentaire de l'Ontario, a pris part à la Journée d'Hygiène dentaire, qui a eu lieu le 4 février. Le Corps dentaire avait organisé des programmes dans tous les camps de la province d'Ontario, où le Ministère de la Défense entretient des écoles pour les enfants des membres du Corps. Ces programmes s'adressaient surtout aux institutrices, aux écoliers et à leurs parents. Ces activités ont débuté quelques jours avant la date fixée, mais les programmes étaient centrés sur cette journée du 4 février. Les items au programme étaient les suivants:

- 1) Examen des dents des écoliers et rapport aux parents.
- 2) Conférences aux instituteurs et distribution d'imprimés traitant d'hygiène dentaire.
- 3) Causeries aux enfants.
- 4) Conférences à des réunions d'Associations de Parents et d'Instituteurs tenues spécialement à cette occasion.
- 5) Publication d'articles traitant d'hygiène dentaire dans les journaux des camps et envoi de lettres aux parents.
- 6) Réception dans presque toutes les cliniques durant la soirée de cette journée d'Hygiène dentaire.

Les organisateurs de cette "Journée" croient d'une façon générale que ces activités

spéciales ont eu un grand succès et qu'elles en valaient la peine, quoique leurs résultats soient difficiles à apprécier. Les écoliers et les instituteurs ont montré beaucoup d'enthousiasme. Les instituteurs, en particulier, ont beaucoup apprécié les imprimés qui leur ont été remis pour les aider à enseigner l'hygiène dentaire.

Le Major G. McDougall, de Lennoxville, Qué., officier commandant de la Section dentaire de la FENU annonce la fondation d'une nouvelle société dentaire. Cette nouvelle Société dentaire s'appelle la "Sinai Dental Society" et elle groupe des officiers dentaires du Canada, Norvège, Yougoslavie, Danemark, et de Suède, qui font du service en Moyen-Orient dans les Forces.

Le Colonel G. B. Shillington a représenté le Directeur Général des Services Dentaires à la réunion annuelle de la section dentaire du Conseil National des Recherches, qui eut lieu à Ottawa, les 26 et 27 février.

L'Unité dentaire No 54 de la Milice Canadienne a organisé un dîner régimentaire à Ottawa, le 7 février, en l'honneur du Colonel C. B. Climo, à l'occasion de sa retraite. On a profité de cette réunion pour offrir au Colonel Climo un diplôme de Lieutenant-Colonel honoraire de cette unité. Le Brigadier K. M. Baird, Directeur général des Services dentaires était présent et répondit à la santé portée pour le Corps. L'Unité No 54 est commandée par le Lt-Col. C. E. Woods d'Ottawa.

PAGES EDITORIALES

Plan de post-paiements pour les services dentaires

Les dentistes de la province de Québec subissent depuis quelque temps une réclame faite par des compagnies de finance, qui leur proposent des plans de paiements à termes pour leurs patients qui ne peuvent régler sur le champ les honoraires de traitements qu'ils ont reçus.

Les systèmes qu'on leur offre peuvent se résumer comme suit: le dentiste s'inscrit comme membre de cette compagnie de finance, en déboursant une somme nominale. En retour, la compagnie accepte de rédiger un contrat avec chacun des patients que lui réfère le dentiste pour échelonner à des intervalles fixes des paiements d'une dette que le patient a contractée pour des services professionnels. La compagnie paie le montant total des traitements au dentiste dès la signature du contrat d'emprunt par le patient; elle se charge, par la suite, de faire la perception du montant dû, à des périodes déterminées à l'avance, en chargeant évidemment un intérêt calculé sur la valeur du risque du remboursement.

Que faut-il penser de ces initiatives prises par ces compagnies de finance? Le public en tire-t-il des bénéfices appréciables? La profession dentaire y trouve-t-elle des avantages réels? Ou seules, ces compagnies réalisent-elles un profit?

Toutes ces questions peuvent faire l'objet d'observations multiples et le cadre de cet article ne permet pas de donner des réponses complètes à ce problème. Contentons-nous de remarques d'ordre général.

Des faits existent.

1) Les campagnes d'éducation en hygiène dentaire entreprises depuis des années sous des formes variées commencent à porter des fruits. La population prend conscience de la valeur d'une denture saine; elle s'éveille à l'idée de faire soigner ses dents; elle a appris le chemin du cabinet dentaire. Il y a certes beaucoup de progrès à faire, mais la génération actuelle désire plus que la précédente conserver ses dents naturelles.

2) La situation économique présente ne permet pas aux petits salariés de payer immédiatement tous les traitements dentaires dont ils ont besoin. Le chef de famille, à cause de l'écart considérable qui existe entre l'augmentation du coût de la vie et l'accroissement des salaires, ne peut solder les honoraires dentaires des membres de sa famille. Le loyer, la nourriture, les vêtements, les services publics, les distractions, les assurances, enfin toutes les dépenses de base ont grossi plus rapidement que le salaire.

3) Le système des paiement à termes pour toutes les commodités de la vie moderne est entré dans les mœurs du peuple nord-américain. Ces paiements échelonnés à périodes fixes, après acquisition, sont monnaie courante; ils sont implantés

chez nous à un point tel que leur disparition entraînerait une crise financière d'importance. Ils sont acceptés, pratiqués sur une haute échelle, ils font partie de notre économie. Notre population y est habituée.

4) Le paiement des traitements médicaux et hospitaliers ne présente pas les mêmes difficultés. Des polices d'assurances de tous genres donnent au public la protection nécessaire dans ce domaine. Ces assurances constituent des systèmes de pré-paiement, par lesquels, grâce à une somme fixe payée à l'avance, on se prémunit contre les risques de la maladie ou des accidents.

Il n'y pas encore de systèmes d'assurances dentaires. Les objections à ce genre d'assurances sont connues et nombreuses. Force est donc de recourir à ces plans de post-paiement.

Voici les prémices de ces systèmes de financement des honoraires dentaires proposés par des organismes commerciaux; telle est la situation qui a favorisé ce climat. Devons-nous accepter ce système? Croyons-nous qu'il portera le public à recourir plus fréquemment aux services plus complets du dentiste?

Nous ne le croyons pas.

Le but poursuivi par les compagnies de finance n'est certainement pas de promouvoir les traitements, mais bien de réaliser un profit. Ce profit provient des intérêts versés par les patients. Cet intérêt augmente considérablement les honoraires; il est donc de nature à éloigner le public des cabinets dentaires. C'est un cercle vicieux. De plus, ces systèmes comparent des services professionnels à une marchandise concrète, saisissable et de valeur marchande. On ne peut envisager sous le même angle des traitements et des objets.

L'Association dentaire canadienne a étudié à fond la question et formulé des principes qui doivent présider à l'organisation de plans du genre. Ces principes inspirés par le bien-être du patient ne trouvent pas leur application dans ces systèmes conçus en fonction du lucre.

Voici ces principes:

- 1) Ce système doit être sans but lucratif et établi seulement dans l'intérêt de la santé dentaire du public.
- 2) Ce système, pour donner les plus grands bénéfices possibles, doit contenir un programme continu d'éducation en hygiène dentaire.
- 3) Ce système, pour simplifier les frais d'administration et donner les plus grands avantages possibles, doit fonctionner au moins dans toute une province.
- 4) Ce système doit être sous le contrôle de la profession dentaire.
- 5) Les plaintes au sujet de son administration doivent être adressées au comité directeur du plan.
- 6) Les plaintes au sujet des traitements doivent être étudiées par le comité provincial des dentistes préposé à ce domaine (p.e., le comité d'arbitrage). Cette exigence est essentielle au bon fonctionnement du système.
- 7) Tous les dentistes en règle devraient être admis à participer au système.
- 8) Les dentistes, avant d'être admis à y participer, devraient en bien connaître les modalités.
- 9) L'organisation du plan doit se conformer aux standards les plus nobles de l'étiquette professionnelle.
- 10) Le système doit être organisé et fonctionner en conformité avec les lois de la province.
- 11) Le plus grand nombre possible de dentistes doivent adhérer au système, puisque son succès est intimement lié au nombre de dentistes qui y participent.
- 12) Les arrangements financiers doivent être pris entre le patient et le dentiste, dans le bureau de ce dernier (juin 1958).

Comme on le voit, un système de post-paiements, pour rendre de réels services à la population, devrait être organisé par les dentistes eux-mêmes, sans but lucratif. Et pour ce faire, les dentistes devraient s'incorporer.

Gérard de Montigny.

Congrès de l'Association dentaire canadienne à Halifax, Nouvelle-Ecosse

les 21, 22, 23, et 24 juin 1959

organisé par l'Association dentaire de la Nouvelle-Ecosse

A tous les membres de l'Association dentaire canadienne,

Le Comité du congrès de 1959 vous invite cordialement à assister au Congrès conjoint de l'Association dentaire canadienne et de l'Association dentaire de la Nouvelle-Ecosse, qui aura lieu à Halifax, du 21 au 24 juin 1959.

Le programme de tout premier ordre qui a été préparé par un comité enthousiaste vous laissera des souvenirs agréables et instructifs.

J'invite particulièrement ceux qui n'ont jamais eu l'avantage de visiter la vieille ville d'Halifax ou qui l'ont vue durant la guerre à contempler les beautés différentes et multiples de la ville et de la province.

L'hospitalité toute cordiale que vous réservent vos confrères n'aura d'égale que celle dont vous serez l'objet par toute la province.

Comité du Congrès de 1959.

J. D. McLean, président

Programme

Dimanche, le 21 juin 1959

9.30 hres a.m. —

4.30 hres p.m.

Soirée

Inscription — Hôtel Nova Scotian
Concert

Lundi, le 22 juin 1959

8.30 hres a.m.

9.30 hres a.m.

11.00 hres a.m.

12.30 hres p.m.

2.30 hres p.m.

3.30 hres p.m.

Soirée

Inscription

Conférence: "Dessins de crochets simples de partiels en vue d'une fonction optimum", par le docteur Victor Stappel, Ohio State University.

Conférence sur la chirurgie buccale, offerte par la Société canadienne de Chirurgie buccale: le docteur James Coupland.

Déjeuner de l'A.D.C. — Les dames sont invitées.

Conférence du Mémorial Grieve, par le docteur Paul Geoffrion.

"Dentiers partiels", par le docteur Steffel.

Réception au bord de la mer.

Mardi, le 23 juin 1959

8.30 hres a.m.

9.30 hres a.m.

11.00 hres a.m.

12.30 hres p.m.

3.00 hres p.m.

Soirée

Inscription

"Traitement d'urgence d'endodontie," par le docteur G. C. Hare, Université de Toronto.

"Considérations sur quelques variétés communes de stomatites", par le docteur H. D. Millar, Université de Michigan.

Déjeuner de l'A.D.N.E. Discussion sur les prochaines dix années de la profession dentaire. Modérateur: Dr Don W. Gullett.

"Cent ans de darwinisme, par le docteur J. Gordin Kaplan.

Réunion de classes.

Mercredi, le 24 juin 1959

8.30 hres a.m.

9.30 hres a.m.

11.00 hres a.m.

12.30 hres p.m.

2.30-4.30 hres p.m.

Soirée

Inscription.

"Dentiers partiels", par le docteur Millard.

"Traitements d'endodontie," par le docteur G. C. Hare.

Déjeuner mixte.

Cliniques de table.

Dîner et bal du président.

Exposition artistique: lundi, mardi, mercredi, de 9.30 a.m. à 4.30 hres, p.m.

Exposition commerciale: lundi, mardi, de 9.30 hres a.m. à 4.30 hres, p.m.

mercredi, de 9.30 hres a.m. à 12.30 hres, p.m.

Exposition scientifique: lundi, mardi, mercredi de 9.30 a.m. à 4.30 hres, p.m.

Nouvelles de l'Association

Statistiques au sujet des dentistes canadiens

Ci-après, on trouvera la compilation annuelle du nombre des dentistes exerçant au Canada. C'est grâce à la collaboration des registraires des provinces que ces statistiques ont pu être amassées.

Remarques

- Le Canada compte 189 dentistes de plus que l'année dernière, mais la population a augmenté de 400,000 âmes en 1958.
- La proportion des dentistes en rapport avec le chiffre de la population reste à peu près

le même qu'en 1958; elle est de 1 dentiste par 2,963; l'an dernier, elle était de 1 dentiste par 2,981.

- La meilleure proportion de dentistes en rapport avec la population se trouve dans la province d'Ontario; elle est de 1 dentiste par 2,344.
- La proportion s'est améliorée depuis l'année dernière dans Terre-Neuve, Ontario et Manitoba; dans les autres provinces, elle s'est aggravée.

TABLEAU 1

Dentistes exerçant au Canada

Nombre de dentistes				Modifications au cours de 1958				*Augmen- tation ou diminution compara- tivement à 1938	**Propor- tion en rap- port avec la popula- tion
Province	Hommes	Femmes	Total	Décès	Re- traites	Addi- tions	Démé- nage- ments		
T.-N.	43	3	46	0	0	6	3	+27	1 / 9522
I.-P.-E.	33	0	33	1	0	0	0	+3	1 / 3030
N.-E.	187	3	190	1	3	6	3	+21	1 / 3737
N.-B.	123	1	124	2	3	2	0	+14	1 / 4653
P. Qué.	1,346	6	1,352	9	10	65	12	+478	1 / 3612
Ont.	2,432	44	2,476	39	9	91	3	+544	1 / 2344
Man.	275	2	277	5	5	20	3	+26	1 / 3141
Sask.	208	2	210	5	2	8	6	Idem	1 / 4229
Alta	411	6	417	3	7	23	7	+181	1 / 2880
C.-B.	619	9	628	5	3	19	1	+266	1 / 2459
Total	5,677	76	5,753	70	42	240	38	+1,560	1 / 2963

*Ces chiffres montrent l'augmentation ou la diminution en rapport avec ceux de 1938.

**Les chiffres de la population sont ceux publiés par l'Office National de la Statistique, le 1er juin 1958.

TABLEAU 2
Migration des dentistes canadiens durant 1958

à de	T.-N.	I.-P.-E.	N.E.	N.-B.	P. Qué.	Ont.	Man.	Sask.	Alta	C.-B.	E.-U.	Angleterre	Australie	Europe	Autres	Total
T.-N.			1			1						1				3
I.-P.-E.																0
N.-E.				1		1							1			3
N.-B.																0
P. Qué.			1			3	1		3	1	1			1	1	12
Ont.							1			1	1					3
Man.								2	1							3
Sask.							1		3	1	1					6
Alta							1	2		3					1	7
C.-B.									1							1
Total	0	0	2	1	0	5	4	4	8	6	3	1	1	1	2	38

TABLEAU 3
Nombre de spécialistes par provinces
(seuls les dentistes qui consacrent tout leur temps à l'exercice de leur spécialité)

	T.-N.	I.P.E.	N. E.	N. B.	P. Q.	Ont.	Man.	Sask.	Alta	C. B.	Total
Orthodontie	0	0	2	1	21	51	5	2	7	10	99
Chirurgie buccale (Exodontie)	0	0	2	0	6	33	4	0	5	7	57
Périodontie	0	0	0	0	3	14	1	0	1	3	22
Pédodontie	0	0	0	0	0	6	2	0	1	7	16
Total	0	0	4	1	30	104	12	2	14	27	194

TABLEAU 4

Nombre de dentistes employés dans les services de santé

	T.-N.	I.P.E.	N.-E.	N.-B.	P. Q.	Ont.	Man.	Sask.	Alta	C.-B.	Total
Facultés dentaires (Personnel enseignant)											
Plein-temps	0	0	4	0	14	15	5	0	4	0	42
Demi-temps	0	0	0	0	0	3	0	0	1	0	4
Service hospitalier											
Plein-temps	0	0	3	2	15	15	0	2	5	5	47
Demi-temps	0	0	0	0	18	5	0	0	0	0	23
Service scolaire											
Plein-temps	0	0	1	2	15	27	1	1	5	1	53
Demi-temps	0	0	3	1	5	57	6	1	5	0	78
Service d'Hygiène publique											
Plein-temps	2	2	2	1	11	17	3	7	2	25	72
Demi-temps	0	0	0	0	0	0	12	0	0	1	13
Total:											
Plein-temps	2	2	10	5	55	74	9	10	16	31	214
Demi-temps	0	0	3	1	23	65	18	1	6	1	118

TABLEAU 5

Nombre de dentistes employés par le gouvernement fédéral

(Plein-temps)

Ministère des Affaires des Vétérans	38
Ministère de la Défense nationale	170
Ministère de la Santé nationale et du Bien-être social	17
Total	225

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JOURNAL

Styloid Syndrome

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The diagnosis and treatment of vague pains of doubtful etiology pose a problem with which every member of the profession is harassed, at one time or another. In most instances the irritating cause is found following a systematic dental examination, using X-rays, vitalometer and other aids. There are however the occa-

sional cases where no obvious causes can be found.

The purpose of this brief communication, is to focus attention on an uncommon pain syndrome which has received little attention in the literature and which due to a lack of awareness of its existence, may cause unnecessary confusion in its diagnosis and treatment.

It is of interest to briefly review some of the pertinent anatomical and embryological features involved in the syndrome. The styloid process is an elongated bony structure attached to the pyramidal sec-

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tion of the temporal bone. It develops from the second branchial bar or the cartilage of Reichert, which extends in early foetal life from the skull to the lesser horn of the hyoid bone. This stylohyoid chain as it is called consists of four elements, they are:

- 1.—the tympano-hyal, or the petrous portion of the styloid process.
- 2.—the stylo-hyal, which forms the body of the styloid process.
- 3.—the cerato-hyal which forms the stylohyoid ligament.
- 4.—the hypo-hyal which becomes the lesser cornu of the hyoid bone.

Normally the styloid process consists of the tympano-hyal and the stylo-hyal. In some instances and in certain animals however, there may be a continued growth and ossification of Reichert's cartilage. This results in an abnormally long styloid process, and even ossification of the whole stylo-hyoid chain.¹ The normal styloid process is usually between two to three centimeters in length, and in cases of abnormal growth may measure as much as six centimeters.

Four cranial nerves may be involved in the styloid syndrome, the 9th or glossopharyngeal nerve is the most frequently effected, the 5th or trigeminal is occasionally involved, while the 7th (facial) and 10th (vagus) are rarely effected. Eagle, at Duke University was among the first to focus attention on the condition and has written several articles concerning it^{2,3,4}. He believes that in some instances the disturbance may be due to pressure on either the external or internal carotid arteries, thus causing a partial constriction of the vessel or stimulating the sympathetic fibers. This explanation is subject to debate, and has never been conclusively demonstrated. A simple explanation is that the mucosa is irritated when drawn over the elongated, pointed styloid process, during mastication or when the mouth is opened wide.

Elongated styloids may elicit pain, but not all cases of abnormally long styloids necessarily demonstrate a pain syndrome.

The condition is more prevalent among males and usually occurs after the third decade. In those instances with symptoms the patients may complain of a dull pain in the pharynx and there may be an increase in salivation, dysphagia or gagging, or the sensation of a foreign body in the pharynx. In some cases taste sensation may be disturbed. Otalgia and generalized head pains have been reported.

Douglas reported a case, where the patient complained of an intense, excruciating pain radiating along the distribution of the third division of the trigeminal nerve⁵. The pain was accentuated by chewing and opening the mouth. The patient was seen by several otolaryngologists and dentists. Many of the patient's teeth were removed on the effected side in an attempt to relieve the pain, before the syndrome was recognized. A variation of these symptoms may be elicited in cases of fractures of the styloid process, following trauma. An instance of this nature was presented by Douglas and Huebsch, in which the patient complained of a sharp boring pain radiating intermittently along the left side of the face. The patient endured the pain for four years, rarely going five or six hours without an attack. He was seen by several dentists, neurologists and otolaryngologists, before it was noticed in a radiograph that the styloid process was fractured. The patient was treated with intermaxillary fixation, and responded well. A similar case was reported where the styloid was fractured during the particularly traumatic removal of an impacted tooth.⁴

The syndrome must be differentiated from:

- 1—Glossopharyngeal neuralgia which is usually associated with a trigger zone in the throat, the diagnosis is made by anaesthetizing the throat and thus eliminating the trigger zone.
- 2—Sphenopalatine neuralgia, anaesthesia of the second division of the trigeminal may be used as a diagnostic test.

The arrow points to an elongated styloid process. The outline of the styloid has been emphasized so as to show up clearly in publication.



FIGURE 1

3—Temperomandibular joint disturbance.

4—Impacted teeth.

The diagnosis of a styloid syndrome can usually be made with the aid of the patient's history, radiographs, and a careful digital examination of the tonsillar fossa on the involved side as the following example demonstrates.

The patient was a 68-year-old, white male, who was referred to the hospital oral surgery clinic, complaining of pain in the right mandible.

A history of the patient's complaints revealed that two years previously he had become aware of an intermittent, dull pain in the lower right retromolar area, which had since increased slightly in severity. The pain was more intense when he opened his mouth and this caused the pain to radiate along the lower jaw. Hot or cold did not affect it, nor did move-

ments of the tongue seem to effect the pain. He was not aware of any "trigger zone". Physical examination of the patient revealed nothing unusual. He was edentulous and the mucosa was normal, no areas of inflammation or tumefaction were noted. Routine dental radiographs of the jaws revealed no pathology. A lateral film of the mandible however, revealed an unusual long bony process (Fig. 1). When the patient was again examined a hard, firm, bony object could be palpated in the tonsillar fossa on the right side. When pressure was applied over this area with the index finger, the type of pain previously described was elicited.

The treatment of this condition involves a simple surgical procedure to shorten the elongated styloid process. In cases of a fracture of the styloid process, satisfactory results have been achieved with inter-maxillary fixation.



FIGURE 2
Styloid Process of normal length.

DISCUSSION:

This syndrome is more prevalent than the literature would indicate. It is reported that an average of 35 cases a year are seen at the Duke University Hospital.² No doubt many unrecognized cases are diagnosed and treated as neuralgias, mandibular joint disturbances or as in the case cited by Douglas by the needless removal of teeth in the hope that some relief will ensue.⁶ Since the diagnosis is easy to make, and the surgical treatment definite, it should be considered when faced with pain syndromes of doubtful etiology.

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Histological Changes on Retained Roots

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INTRODUCTION

The fracture of roots during dental extractions is no rare occurrence. Many of the remaining fragments are removed either immediately or shortly after the original operation but others are left in the jaws for a variety of reasons, not all, by any means, reprehensible. Whether such root remnants can safely be left in place for long periods is a difficult problem to answer. Experimental investigations in rats (Glickman et al. 1947), dogs (Szabo 1928) and monkeys (Simpson 1958) have shown that large fragments often interfere with the healing of sockets by mechanically preventing complete epithelialization while smaller fragments do not impede the repair processes.

Although animal experiments can be well controlled and experimental material readily obtained, there are limits to the value of such investigations. It would be idle to suggest that the healing processes in man are qualitatively different but equally futile to suppose that, because a root fragment is well tolerated in an animal for a few weeks, it will remain in a satisfactorily state indefinitely and it is the long term effects which largely concern us.

Buried roots are sometimes regarded as possible sources of pain or as foci of infection. When there is local evidence of inflammation there is little doubt concerning their harmful potentialities but, in the absence of such evidence, a decision is more difficult. It is reasonable to suppose that most, if not all, normally

situated roots will eventually be uncovered by alveolar resorption if time permits and that at or shortly before this stage, symptoms varying from mild discomfort to acute pain and swelling may arise (Figs. 1 and 4). However, the removal of a root which has been uncovered in this way is a much simpler procedure than its excavation from the depths of a socket.

In view of the frequent occurrence of the problems involved, it was decided to examine a number of retained roots in order to assess the changes they undergo and, if possible, to determine the manner in which symptoms are produced. The root fragments employed had been removed either prophylactically or because they were giving rise to symptoms and had been present for periods ranging from one day to twenty years since the original operation. Satisfactory histological preparations were obtained of thirty specimens. Half of these were probably symptomless and half were associated with varying degrees of pain and inflammation. Of the latter group, one was associated with an epulis and one with a small cyst.

The following is a description of the histological findings.

CHANGES IN THE PULP

Odontoblasts were not usually present in specimens obtained later than one year after the original extraction, the pulps tending to undergo fibrous and sometimes calcific degeneration. All the symptom



FIGURE 1

Mandibular incisor root retained for 20 years. This root was symptomless until shortly before it became visible in the mouth six months before it was removed. The fracture end had been almost sealed by tubular secondary dentine and the pulp had undergone calcific degeneration. The pulp was necrotic when the root was removed.



FIGURE 2

Mandibular third molar root removed 9 months after the original extraction. Tubular secondary dentine narrows the open end of the pulp chamber and extends beyond it to reattach a fragment of dentine.

free roots contained apparently healthy soft tissue but all except two of the remainder had empty pulp chambers or necrotic or inflamed pulps.

SECONDARY DENTINE DEPOSITION

Most of the fragments showed secondary dentine deposition on the walls of

the pulp chamber. It contained variable numbers of tubules. There was a tendency for secondary dentine to narrow the opening at the fractured end of the root (Fig. 2).

CEMENTUM DEPOSITION

Cementum was deposited on the fractured surfaces and sometimes, in consid-

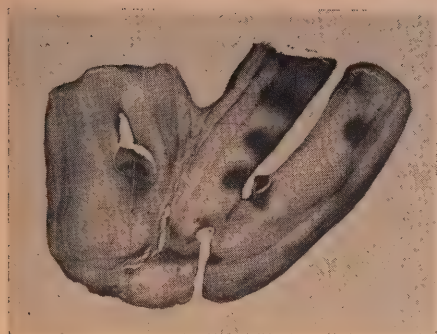


FIGURE 3

Heavy and apparently recent deposition of cementum on the retained apices of a maxillary molar. Cementum covers the fractured surfaces.

erable thickness, all round the root (Fig. 3). Cementum deposition on the fractured surface was first observed at eleven days on a maxillary incisor root. In later specimens absence of cementum in this situation could almost always be attributed to operative procedures or to resorption.

RESORPTION

Internal resorption of mild degree was observed in two thirds of the specimens and most of the roots showed external resorption particularly at the extremities. Usually the resorption was slight and had often been repaired. It was more marked, although not more frequent, in the symptom-producing specimens where it could often be attributed to inflammatory processes associated either with the penetration of the mucoperiosteum or the subsequent passage of infection through the root canal to the periapical tissues. (Fig. 4).



FIGURE 4

Mandibular premolar root removed 10 years after the original attempt. This was one of the few fragments to show extensive resorption. The presence of calculus on the coronal extremity shows that this area was exposed to the oral fluids. The patient attended because an abscess developed at the site of this root.

DISCUSSION AND CONCLUSIONS

The pulp in an uninfected retained root fragment tends to undergo fibrous degeneration but probably remains otherwise healthy until exposed to the mouth by alveolar resorption and breakdown of the mucoperiosteum. Even when part of the

root surface is in contact with the oral fluids, the pulp is capable of survival in some cases.

Secondary dentine deposition is a regular finding. The tendency to seal the fractured end is of no practical significance since the seal is incomplete. Cementum deposition on the fractured surface is similar to that observed following any injury to a root but the reason for the occasional thick layer of cementum on the rest of the root surface is not clear.

Both internal and external resorption are found to some degree in most specimens but are not usually a marked feature except in cases where it may be supposed that an inflammatory reaction has accompanied the penetration by the root of the overlying soft tissues. In these cases the coronal extremity may show considerable resorption.

The evidence suggests that a root fragment, originally uninfected, can be safely left in position until resorption of the

alveolar bone causes it to occupy a superficial position when symptoms can be expected to be imminent. Radiographs of symptom producing roots usually show them to be free of overlying bone and, in addition, some show associated bone rarefaction.

Symptoms arise when the root approaches the surface. If the root projects from the bone it will cause pressure on the sensitive mucoperiosteum especially if a denture is worn and eventually the mucoperiosteum will be penetrated. Even if the root does not project, the absence of bony support for the mucosa possibly causes it to break down sufficiently to allow infection to reach the pulp and eventually pass through the apex to produce periapical inflammation similar to that which may affect a whole tooth.

There are three references.

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WESTERN CANADA DENTAL SOCIETY 1959 CONVENTION

Banff Springs Hotel

Banff, Alberta

May 31st, June 1st, 2nd, 3rd

Essayists

Col. Robert Shira —Chief, ORAL SURGERY Section, Walter Reed Medical Centre, Washington, D.C.

Dr. Maury Massler —Head, Dept. of PEDODONTICS, University of Illinois, Chicago, Illinois.

Dr. George Hughes —Head, Dept. of PROSTHODONTICS, University of California, San Francisco.

and lectures by:

Dr. John W. Neilson—Dean of Dentistry, University of Manitoba.

Dr. Floyd Jacobson —Head, Dept. of Oral Diagnosis, University of Washington.

For accommodations write: Dr. T. A. Alexander, 901 Greyhound Bldg., Calgary, Alberta.

Peripheral Giant Cell Reparative Granuloma of Bone

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Joseph Kulyk, D.D.S.

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Lebert and Paget were among the first to describe giant cell tumors. Nelaton as a result of his study of forty-six cases was the first to regard them as benign.

A profusion of names have been applied to this lesion in the literature including giant cell sarcoma, giant cell epulis, giant cell tumor, benign giant cell sarcoma, myeloid sarcoma or osteoclastoma. Jaffe (1953) has suggested the name Giant Cell Reparative Granuloma of Bone.

Genuine or true giant cell tumors of bone are rarely observed in the oral cavity whereas lesions conforming to Jaffe's description (Peripheral Giant Cell Reparative Granuloma of Bone) are relatively common.

Bernier and Cahn (1954) in a series of forty-one cases in which the average age was thirty-two years concluded there was little difference in mandibular maxillary location or sex incidence.

The Peripheral Giant Cell Reparative Granulomas of bone are most frequently observed on the anterior ridge between the cuspid and bicuspid teeth, arising from the periosteum of the alveolar margin. The lesion however on occasion may be found posteriorly between the molar

teeth. These lesions while not primarily infiltrative are expansive. The typical lesion consists of solid portions as well as numerous small cystic areas. The solid portions are friable, crumbly, granular masses varying in colour from yellow to dark red, but typically presents a reddish brown appearance. Stafne describes the general appearance of the tumor as simulating an old bruise. Frequently fibrous areas may be palpated on the gross specimen and occasionally the lesion is entirely encapsulated by fibrous tissue. The lesion may frequently be completely removed from the bony cavities by means of curettement.

Trauma is the most common aetiological factor.

In the peripheral lesion two predominant types of cells are found: a spindle cell and a multinucleated cell, the overlying epithelium is sharply separated from the tumor by a zone of fibrous tissue.

As the lesion matures, more collagenous tissue is laid down and the spindle cells become more fibrocytic than blastic. The vascularity is diminished as is the number of giant cells. The aged lesion is quite fibrous with only a very few giant cells, and in the case of the peripheral growth may result in a fibroma, which if the lesion were a reparative process would simply be a hyperplastic scar.

In the problem of differential diagnosis one must remember that the giant cell

*From the Department of Radiology, Faculty of Dentistry, University of Toronto. With acknowledgements to Dr. Kulyk for reference of this case, to Dr. Hunter for pathology, and to Mr. John Philpott for photography.



FIGURE 1

lesion — either peripherally or centrally located—may be a sign of hyperparathyroidism, and is indistinguishable histologically, clinically and roentgenologically from the purely local conditions. Therefore it is advisable in all giant cell tumors of the jaw to rule out hyperparathyroidism.

The Bio-chemical studies should be supplemented by skeletal x-rays.

Case as illustrated is that of a white male forty-five years of age who presents complaining of pain in the maxillary right lateral-cuspid-first bicuspid region.

The lesion as illustrated (Fig. 1) is a smooth surfaced swelling on the labial-buccal surface — but rough pebbly and bluish in appearance on the palatal surface. (Fig. 2.)



FIGURE 2



FIGURE 3

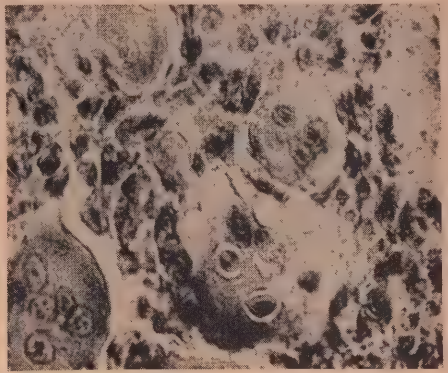


FIGURE 4

A periapical x-ray of the area (Fig. 3) illustrates an area of rarefying osteitis surrounding the right lateral tooth and extending posteriorly to involve the adjacent cuspid. The bone lesion would appear to be irregular in outline and as such may be suggestive of an unusual lesion possibly bordering on a malignancy.

(Fig. 4.) Illustrates a typical peripheral giant cell reparative granuloma of bone with the presence of spindle and multinucleated giant cells.

Medical Arts Building, Toronto.

Progress in Science — Just as every embryo points to a new life, to many new generations, different, frequently better, but sometimes, unfortunately worse than the previous one, so it is with every new scientific contribution. *Selman A. Waksman. My Life with the Microbes.*

Simplified Crown and Bridge Treatment for the General Practitioner*

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In any discourse involving crown and bridge discussion it should be kept in mind exactly what is proposed in making such a restoration, that is: what are some of the main purposes of a fixed bridge? Knowing and remembering what these demands are will enable the practitioner to design and create a bridge which will satisfy these requirements.

The main requisites of a fixed bridge are:

1. To restore a correct occlusion,
2. To promote a proper periodontal condition of the mouth.
3. To prevent drifting, tilting and exfoliation of other teeth adjacent to the edentulous area,
4. To help prevent decay of the abutment teeth and those teeth adjacent to the abutment teeth,
5. To restore satisfactory appearance.

These five basic requisites should be kept in mind at all times during the course of the bridge construction.

DIAGNOSIS

Many times it has been asked, "When should one use a fixed bridge, and when

should one use a removable partial denture?"

It goes without further comment that unless there are satisfactory abutment teeth at each end of the edentulous area, a removable partial denture should be used except in one or two rare instances.

i) Age

Age is a definite consideration in our diagnosis. For a very young patient, say under 18 years of age, a temporary removable partial denture would likely be indicated rather than a fixed appliance, due to the large pulps in the teeth of young people.

It was felt by many that once a person was over sixty, partials only were indicated. Today, under modern concepts and with modern techniques, age alone, is no barrier. The comfort and efficiency provided by a fixed appliance are worthy of all age groups save the very young.

ii) Mobility

Mobility of the abutment teeth, and the remaining teeth in the arch, is also a consideration in our diagnosis. If there is a fairly advanced periodontal condition with marked bone loss and mobility of the teeth present, fixed bridge construction may be contra-indicated.

*Delivered before the Alpha Omega Dental Society, February 17, 1959.

Suppose the edentulous area is in the maxilla where mobility of the remaining teeth is present and there is a broad palate with no marked bulbus torus, and a reasonably nice ridge area remains. It would be wise to consider a partial removable denture rather than a fixed appliance, particularly if there were edentulous areas present on both sides of the arch.

If, however, the same mobile condition existed in the mandibular arch, and if the remaining ridge area was knife-edged or even saucer shaped, then a fixed appliance might be the better choice, particularly if multiple abutments at each end of the space could be employed. It is astounding how this mobility is reduced once the bite is balanced, and proper periodontal treatment, coupled with home hygiene, have been instituted.

One further case to keep in mind, when dealing with the lower arch, is where lower cuspids, and possibly lower bicuspid remain, with the four lower anteriors, and the remaining posteriors are missing. It is often most wise from the standpoint of longevity and comfort of the restorations, to replace the missing anterior teeth with a fixed bridge, and the missing posteriors with a cast bar removable appliance. This eliminates the tipping of a partial which was designed to replace all missing teeth, and prevents settling of the case in the anterior region, with resulting loss of incising ability.

iii) *Long Edentulous Spaces*

Long edentulous spaces or areas, with short abutment teeth, are a definite contra-indication for the average fixed bridge. Unless multiple abutments at one, or preferably both ends of these large spaces can be utilized, it is better to consider a removable appliance.

iv) *Devitalized Teeth.*

There was a time when it was felt that devitalized teeth should not be utilized as abutment teeth for good fixed bridge work. To-day, when a tooth has been

correctly devitalized, it may make an excellent abutment for a fixed bridge. Indeed, if there is a sound doubt as to the ability of the impaired pulp to remain healthy, it should be extirpated and the tooth properly devitalized before employing it as an abutment. This may entail some alteration in the original design of the abutment preparation. For example, it is now necessary to cover the entire occlusal surface, and to ensure that no cusps protrude through the gold, to prevent any fracturing of these cusps.

These four factors, age, mobility, long edentulous spaces with short crowned abutment teeth and also devitalized teeth are ones that should be given consideration in a diagnosis.

Wherever one has a fairly normal edentulous area, with abutment teeth at each end of the gap, one would be wise to think in terms of a fixed bridge as the means of first choice. With a fixed appliance there is little or no settling out of occlusion, no need for rebases, little or no collapsing in of the facial tissues with the resultant loss of tissue tone. Leafy vegetables, fruits, meats and all foods are better masticated with a fixed appliance.

All operative work should be completed, and a proper periodontal program instituted if necessary, before crown and bridge work is commenced. It would be most foolish to insert a beautifully made fixed bridge and then proceed to do operative work in a tooth adjacent to that appliance, and then find that the tooth might have to be extracted. Foolish, and a little difficult to explain.

If a bridge is inserted before a good periodontal program has begun, excision of the gingival tissues involving the bridge abutments may be a necessity. If the bridge was designed and constructed after the periodontal treatments, the sensitive exposed necks of the abutment teeth can be taken care of with the actual bridge in some instances. Complete the operative work first, and at least have determined what is necessary from a periodontal

standpoint before proceeding with the actual design and construction of the bridge.

The requisites of a fixed bridge are:

1. To restore occlusion,
2. To promote the periodontal health of the teeth and tissues,
3. To prevent tilting, drifting and exfoliation of the teeth in the immediate vicinity of the missing tooth or teeth,
4. To prevent decay of the abutment teeth, and of those teeth adjacent to, or opposing the edentulous area,
5. To restore a reasonable degree of appearance.

TREATMENT PLANNING

The Exfoliated Tooth

In restoring occlusion an exfoliated tooth or teeth must not project into the edentulous area beyond the normal plane of occlusion, and so interfere with correct rebuilding. One of three things can be done depending upon the amount of exfoliation.

a) If the exfoliation is mild, and the occlusal plane can be restored by judicious grinding, it should be done. This grinding and polishing should not expose any portion of the dentine.

b) If the exfoliation is marked but there is no involvement or exposure of the bifurcation of the roots, then the tooth should be trimmed to the correct occlusal plane, and prepared to receive a partial veneer crown, i.e. three quarter gold crown or a full crown.

c) If the bifurcation is involved then this exfoliated tooth opposing the edentulous area should be extracted and a proper fixed bridge made for its replacement as well as one for the original edentulous area.

The Tilted Abutment Tooth

Thinking always in terms of the purposes of a fixed bridge, mesio-occlusal,

mesio-occlusal-distal and a crowfoot preparation will not be used on a tilted abutment tooth. With these preparations a proper occlusal plane cannot be restored to these teeth. A partial veneer crown or a full crown should be used in these cases.

Length of Span

The length of the span of the edentulous area is a third consideration in our treatment planning. Roughly speaking, under normal conditions it is suggested that a single pontic be approximately three quarters the bucco-lingual width of the tooth it is replacing when we are dealing with posterior teeth. Should there be two pontics side by side, then reduce the bucco-lingual width of the pontics to two thirds the width or less, of the teeth they are replacing. In longer spans the bucco-lingual width would be half or less. A safe rule to follow is this. As the span of the bridge increases, reduce the bucco-lingual width and reduce the height and slope of the inclined planes on the occlusal surfaces of all teeth concerned in the actual bridge. This will reduce the thrust or torque on the abutment teeth during all excursions of the mandible.

Type of Pontic

The Type of Pontic to use is a fourth and very important phase of our treatment planning. In as much as this is a clinic in simplified bridge work for the general practitioner, and the general practitioner seldom meets a case where a porcelain bridge is required, this type of restoration will not be dealt with. Nor will complete oral rehabilitation be dealt with though the principles that have been stated earlier would apply to a large extent in this field. Rather the remarks will be directed to the situations which are met in daily practices.

Generally speaking, a fine service is provided free from trouble and repairs if the following rules are observed in fabricating pontics.

a) For lower posterior teeth a good general rule is to use a hygienic type of all-metal pontic. This is a must if the ridge area is saucerized or almost non-existent. It is true also if a muscle attachment comes to the crest of the ridge in the edentulous area, when the cheek is pulled out laterally. It is also true if there is poor tissue tone of the gingival tissues. If, however, the ridge is bold and the tissues normal without muscle attachments rising high on the ridge, a gold acrylic or gold porcelain type of pontic may be considered such as will be suggested for upper posteriors.

b) For upper posteriors either a gold acrylic or a gold porcelain type of pontic may be used. In either case the buccal embrasures between the abutment teeth and the pontics are kept reasonably narrow for esthetics. The lingual embrasures are kept wide for easier cleansing. The pontic just touches the ridge lightly, with no pressure, and with minimum contact area. Should the edentulous area be small, necessitating much grinding of a porcelain Tru Pontic, it is wiser to use a gold acrylic rather than a gold porcelain pontic. Remember if porcelain is used, and the gingival portion is ground, it must be well glazed before insertion in the mouth. There is considerably less danger of fracture or of breakage with a gold acrylic pontic than with porcelain. Acrylic must never be used to restore the occlusal portion of the pontic as its rate of wear is very marked under occlusion. However, a gold acrylic pontic can be better adapted to the requirements of the ridge area of the edentulous space than a porcelain pontic which is ground.

c) In the anterior region of the mouth the type of pontic is governed by several factors. All things being favourable either the gold porcelain or gold acrylic pontic may be used. However, there are several factors which mitigate against the use of gold acrylic as pontic materials:

First. Never use the gold acrylic pontic in the mouth of a person who is a pronounced mouth breather. The constant

flow of air on the acrylic will dehydrate it and cause it to change colour. It may also cause possible shrinkage of the acrylic.

Second. Certain lipsticks contain dyes and liquids such as acetone which will damage the pontic when in continual contact with it. This should be taken into consideration when deciding upon the pontic material.

Third. Heavy usage of alcohol and nicotine have an adverse affect upon acrylics. This might mitigate against the use of acrylic as pontic material anywhere in the mouth.

Fourth. The age of the patient plays a part. In the anterior of the mouth, where, because of the patient's age, prolonged lifetime of the bridge can be expected with prolonged esthetic requirements, porcelain gold pontics are preferred.

Despite these four factors for the anterior pontic, there are still many cases where it may be preferable to use the gold acrylic pontic, and when carefully chosen and well made, these give excellent results.

ABUTMENT PREPARATIONS

When considering correct abutment preparations, one should be guided by several factors:

a) Restoration of the occlusion of the abutment tooth,

b) Sufficient retention to withstand the stresses of mastication,

c) Coverage of vulnerable areas to prevent future caries and also to prevent fracture of the abutment teeth at a future date,

d) Improved appearance of the abutment tooth itself.

These four basic factors are very important. Covering these four factors in order, the first factor when about to prepare the teeth is "Are they in proper occlusion?" If they are tilted, drifted or rotated into poor occlusion, then the preparation must permit the complete restoration of the occlusal surface in order that

it may be carved into proper occlusion. There is no easier way than with a proper full crown or partial veneer crown.

The second factor is that of sufficient retention. Maximum retention is provided by full coverage, i.e. full crowns. This is followed in diminishing order by the partial veneer crown, then the mesio-occlusal-distal onlays and inlays with and without pins and the old crowfoot preparations. There is seldom a time when mesio-occlusal or disto-occlusal inlays are indicated.

The third factor is that of susceptibility to future caries. When the decay rate or caries susceptibility is high or above average, care must be taken to protect the abutment tooth against future decay or fracture. An example, would be when the lower first molar is missing in the mouth of an individual who has exhibited a fairly marked susceptibility to caries. It would be most unwise to use an MO or crowfoot type of restoration, or a restoration which does not cover the distal of the second molar, if the third molar is present. Similarly, the restoration should definitely cover the mesial of the second bicuspid in order that at some future date decay does not set in on the unprotected proximal surfaces of these two abutment teeth, and so undermine the fixed bridge.

If there has been, or is marked buccogingival decay in this mouth, the abutment preparation should possibly be such that it will cover this bucco-gingival portion of the tooth as well.

Taking these factors into consideration, here again the full crown would possibly be best, followed as before by the partial veneer crown.

The fourth factor is that of appearance.

If an abutment tooth is discoloured or unduly exfoliated in appearance, the esthetic factor may best be fulfilled by using full coverage such as a full gold acrylic or full gold porcelain crown.

From these four factors it can be seen that by far the greatest percentage of abutment preparations can best serve the stated needs by using full coverage or

partial veneer coverage. However, one particular factor that should be stressed is that full coverage, be it full gold crowns, full gold acrylic crowns or full gold porcelain crowns, does not mean gross cutting and reduction of the abutment tooth. In most cases it simply means removing the enamel from the crown of the tooth. There is no need to mutilate or destroy large areas of tooth substance with this type of preparation.

Some practitioners may feel this preparation best suits the needs of the mouth, but that because the abutment teeth are tilted or markedly non-parallel, it would mean excessive cutting of one or both of the abutments to permit the bridge to go to place.

The answer to this, of course, is that if it is felt that because of the factors stated, full coverage or at least partial veneer crowns would be the best answer, then by all means use them, but use a semi-fixed bridge rather than fixed. This semi-fixed bridge is one whereby one of the abutments contains a female attachment and the pontic contains the male attachment. More clearly stated, a keyhole effect is created in a proximo-occlusal area on one of the abutment crowns and a key on the pontic that fits into this keyhole. The path of insertion of the keyhole and its male attachment is parallel to the other normal abutment.

SUMMARY

The main requisites of a fixed bridge are:

1. To restore occlusion,
2. To promote a proper periodontal condition of the mouth,
3. To prevent drifting, tilting, and exfoliation of other teeth adjacent to the edentulous areas,
4. To help prevent decay of the abutment teeth, and those teeth adjacent to the abutment teeth,
5. To restore the appearance.

Simplified crown and bridge work for the general practitioner has been discussed under three main headings:

1. Diagnosis,
2. Treatment Planning,
3. Abutment Preparations.

Under Diagnosis four topics were considered.

The first was the age of the patient and it was decided that only in the mouths of the very young patient was fixed bridge work actually contra-indicated.

The second was mobility. This may or may not be a contra-indication.

The third dealt with the long edentulous spans with short crowned abutment teeth. Here it was felt that unless multiple abutments were present at each end of the span it was wise to consider a removable type of appliance.

The fourth was the devitalized tooth and when this has been properly done, and all other factors are favourable, then it presents no hindrance, as long as the occlusal surface is completely covered in gold to prevent cusp fractures.

Under Treatment Planning the following subjects were dealt with.

1. The exfoliated tooth and its three stages of exfoliation.

2. The tilted tooth and how it may be restored to its proper occlusion.

3. The span of the bridge—the longer the span, the narrower the bu-lingual width and the shallower the inclined planes, to reduce torque.

4. The type of pontic to use, under the three headings for lower posteriors, upper posteriors and anteriors.

The third major topic Abutment Preparations correlated the five requisites of a fixed bridge with four other considerations. These four considerations were:

1. Proper restoration of the occlusion of the abutment tooth or teeth,

2. Sufficient retention to withstand the stresses of mastication.

3. Coverage of vulnerable areas to prevent future caries, and fracturing of the abutment teeth,

4. Improved appearance of the actual abutment tooth.

Combining the requisites of the fixed bridge with the requisites of the abutment preparation, in most cases the full crown, or the partial veneer crown are the best answers.

2 Bloor St. E.

CANADIAN SOCIETY OF ORAL SURGEONS

Proposed Program

Halifax, June 21, 1959

The following is the proposed program for this Society during the Halifax meeting. The Society meeting is called for June 21, 1959.

9.15	Meeting called to order
9.30	Greetings from the C.D.A. President
9.45-10.45	Dr. J. Coupland, Ottawa — "Oral Surgery as Related to Orthodontics"
10.45-11.00	Discussion
11.00-12.00	Business Meeting
12.30- 1.30	Luncheon
2.00- 3.00	Dr. A. A. Antoni, Toronto — "A Logical Approach to Jaw Fractures"
3.00- 3.30	Discussion, Presentation of any special cases of problems by any member
4.00	Cocktails in President's Suite

Complete Denture Impression Techniques*

K. M. KERR, D.D.S.,** Halifax, Nova Scotia

The field of prosthetic dentistry is a wide one, involving in some degree, practically all of the basic sciences to a greater extent than any other field in the profession. So our approach to our problems must be a biological one, with the mechanical considerations of relatively minor importance, but important nevertheless. A thorough knowledge of the anatomy of the areas involved, not only as supports for dentures, but in the various functions of mastication, deglutition, speech and posture, is essential if our prostheses are to be considered more than "false teeth". In addition to a knowledge of the anatomy, we must have a sound understanding of the physiology of the structures involved, individually and collectively. I have no intention of reviewing the anatomy and physiology, in fact there is so much included within the scope of prosthodontics that it is extremely difficult to cover any one phase with any completeness in the time we have. Since all our subsequent procedures are dependent for their success upon our having the best possible impressions, I've taken impression techniques as the subject for our discussions.

COMPLETE DENTURE IMPRESSION TECHNIQUES

Some of our most universally used impression materials came into use, as such, more than a hundred years ago, and in the interim there have been a multitude of impression techniques devised and presented to the dental profession. Some of these were developed to fit theories, others in an attempt to find easier and shorter methods of impression making, and still others to utilize specific impression materials. It would be impossible to devise a technique that did not, in some way, use steps that have been used before by someone else, so I do not claim any individuality for my presentation which contains little that is not borrowed. Except for slight personal variations credit for these techniques should go to Dr. C. O. Boucher of Columbus, Ohio.

It is a mistake to attempt shortcuts in our impression making. To make dentures that fulfill their duties requires the most exact impressions that we can make. It has been said that our edentulous patients are dental cripples, and as such, deserve the finest service possible.

As a general rule, the maxillary arch does not present a great many problems that cannot be corrected before the impression is made. Soft, flabby tissue overlying the ridges, sharp bony spicules and bony undercuts can all be corrected surgically, and a solid denture foundation

*From an address to the Newfoundland Dental Society.

**Professor of Prosthodontics, Faculty of Dentistry, Dalhousie University.

provided. The mandibular foundation is a different problem that we will discuss a little later.

Before making any impression we should survey carefully the characteristics of the tissues upon which our dentures will rest. A knowledge and understanding of the anatomy and physiology of the various structures are basically essential. Frequently, some form of remedial treatment is indicated before truly successful prosthodontic treatment can be performed and there should be no hesitation in prescribing and instituting such treatment when required. Only when oral conditions are as favorable as they can be made, should we proceed with impression making.

UPPER IMPRESSION COMPOUND TRAY

1. An upper stock metal tray is selected that is at least one quarter inch too large in all dimensions to allow for an adequate thickness of compound between the tray and the tissues.

2. Two to two and a half cakes of a good quality compound are softened in water at one hundred and forty degrees Fahrenheit. Kerr's Black Compound has several advantages. It has the highest working temperature (one hundred and thirty four degrees Fahrenheit) and consequently sets quicker in the mouth, thus saving time. Further, it seems to be stronger and tougher, and when thoroughly chilled is easier to trim with a sharp knife. When the compound is thoroughly softened and kneaded, it is placed in the tray and the primary impression made with only light pressure and preliminary border moulding to leave at least one quarter inch bulk in the tray.

3. Remove the impression, chill in ice water and remove the stock tray from the compound.

4. Observe in the mouth the distance from the crest of the ridge to the reflection of the muco-buccal and muco-labial folds and mark on preliminary impression

with a red pencil. The mouth should be half open and the tissues at rest.

5. Trim the buccal and labial flanges to this dimension.

6. Trim the labial flange from bicuspid to bicuspid until it is two millimeters in thickness at the edge.

7. Observe the space in the mouth between the ridge and the cheek in the molar region and mark this on the tray. If there is an excess of material, knife trim to the approximate size, maintaining a minimum thickness of two millimeters. If necessary, add red stick compound to increase the thickness of height of flange.

8. Heat the entire palatal surface and impression surface of flanges with dry heat, (Hanau torch), to depth of one millimeter and re-insert with firm pressure. Remove and chill in ice water.

9. Border mould the flanges by heating the edge with a flame, temper in water bath and insert. Grasp the cheek with thumb and forefinger, pull out, then down and in around the flange. Move forward and backward to develop the notch for the buccal frenum. Repeat on the other side, the anterior section on each side followed by centre section.

10. Border mould the anterior section by lifting the lip up lightly and down over flange—no side movement is necessary. Remove and chill and repeat each section as required.

11. Heat both disto-buccal angles of the tray. Temper in water bath, insert and have the patient open, close, open and move jaw from side to side in protrusion. Remove and chill.

12. Observe the vibrating line which is the junction of the hard and soft palate, and mark on the tray. This line passes through the hamular notches and two millimeters in front of the foramina palatini.

13. Trace green stick compound on this line about one eighth inch in diameter, soften with flame, temper and insert under steady firm pressure. Remove and chill. The resulting post-dam should be about

four to six millimeters wide and one half millimeter thick.

14. Scrape one half millimeter from the entire inside of tray anterior to the post-dam with an extra one half millimeter from protuberances, incisive papilla and median suture.

15. Reduce height of flanges uniformly by one and one half millimeter.

UPPER PLASTER WASH IMPRESSION

Having perfected the compound tray, it now remains to make the final impression using a plaster wash. A fine grain impression plaster such as Kerr's #1 Impression Plaster may be used, or, if preferred, a specially prepared material marketed under the trade name of Plastogum. If impression plaster is used, sift only enough powder into the mixing bowl to take up almost all the free water. If Plastogum is used, measure exactly the amounts of water and powder using the measures provided, or measuring twenty-seven grams of powder and eighteen cubic centimeters of water. The water should be exactly seventy degrees Fahrenheit and mixed to a smooth creamy consistency. If a mechanical spatulator is used, the mixture should be spatulated for forty-five seconds. If spatulated by hand, it takes from one to two minutes. When the plaster is at the proper consistency:

1. Pour it into the tray and distribute it evenly over the entire inside and periphery of the tray in a bulk not exceeding one millimeter.

2. Carry the tray into the mouth and settle it into place with a slight rotation. Guides to position are hamular notches and the labial frenum.

3. Hold the tray in position with a light but steady pressure in the centre, near the posterior border of the tray.

4. Border mould the plaster at the instant it loses its stickiness and does not pull away with your finger. At this stage the plaster is mouldable. Border moulding

is accomplished by raising the cheek up and out, then gently pulling it in and down. At the same time work it gently back and forth to make a path for muscles. To mould the labial flange, raise the lip, then pull it down gently. All during the moulding, maintain the steady firm pressure on the palate. It is advisable for the patient to pull the upper lip down, after the hand manipulation.

5. After the plaster is set up hard enough to break with a clean fracture, the impression may be removed.

Note: Never leave a patient with an impression in his mouth, and always maintain the firm pressure in the posterior portion of the centre of the palate, from the time the tray is seated until the impression is removed.

As the artificial stone for the cast will fuse with the plaster impression, the latter must be treated with a separating medium such as Separatine (Brophy's) which is applied while the plaster is wet, allowed to stand for three minutes, then rinsed off.

LOWER IMPRESSION TECHNIQUE

The anatomical considerations that influence our lower impression techniques are very different from those that affect the upper. The upper denture is supported primarily by the residual alveolar ridge, whereas the lower alveolar ridge is capable of furnishing only secondary support with the buccal shelf providing the primary support. Another important difference is the more extensive periphery of the lower denture with which an imposing array of actively moving anatomical structures come into intimate contact. Of these, the tongue, the structures of the floor of the mouth including the mylohyoid muscle and the buccinator attachment must be given the most careful consideration. Provision must be made in the impression technique for the active and unimpaired functioning of these tissues if our lower dentures are to be successful as

to both fit and function. It is of the utmost importance, therefore, that the tray constructed for our final impression, be of an outline form and of a contour that will permit this freedom of functional movement. The tray, then, is the most important part of the impression, and time spent on its fabrication will pay dividends in time saved in adjustments and in patient satisfaction and comfort.

As with the upper denture, before proceeding with treatment a careful survey must be made of the denture foundation and all the factors, favourable or unfavourable, that have a bearing on procedures. Also, as with the upper ridge, there may be soft flabby sections of the ridge, bony spicules or undercuts that may require either surgical or conservative treatment. If treatment is required, it should be prescribed and instituted before the denture construction is undertaken. When a sound supporting base is achieved our impression procedure is begun following these steps:

1. Select metal stock tray one quarter inch too large in all dimensions.

2. Heat two cakes of black compound in water at one hundred and forty degrees Fahrenheit—place in tray.

3. Make the preliminary impression. (This impression should be over-extended in all directions and should be at least one quarter inch thick occlusal to the ridge.)

4. Chill in ice water and remove compound from the stock tray. Reinforce with fourteen gauge wire.

5. Observe the distance from the crest of the ridge to reflections of the cheek, lips and floor of the mouth and mark it on the tray.

6. Knife trim the flanges to these dimensions. Remove all undercuts by knife trimming the buccal surface of lingual flange from the pre-mylohyoid eminence to the post-mylohyoid eminence.

7. Using a torch, heat the entire impression surface to depth of one millimeter and re-insert with even, moderately firm pressure. Remove and chill in ice water.

8. Border mould in the following sequence:

- (a) Heat the edge of buccal flange from first bicuspid to retromolar pad and mould with cheek action.

- (b) Repeat on the opposite side.

- (c) Soften the buccal notch on one side, then the other, moulding for action of the buccal frenum.

- (d) Heat and mould from the frenum to the midline.

- (e) Repeat in the opposite side and then the whole labial flange.

- (f) On the lingual, heat from the bicuspid to bicuspid on the edge of the flange and have the patient thrust out the tongue as far as possible.

- (g) Heat the lingual side of lingual flange and have the tongue thrust hard against the roof of the mouth anteriorly.

- (h) Heat the buccal surfaces of both lingual flanges to depth of one and one half to two millimeters and have the patient thrust out the tongue hard.

- (i) Heat the edges of the lingual flanges—tongue thrust out hard.

- (j) Heat from the posterior borders to the post-mylohyoid eminences of lingual flanges and have the tongue thrust out hard; with hard finger pressure on the ends of the tray, have the patient close on your fingers.

- (k) Heat lightly over the mylohyoid eminences and heavily over the retromolar pad—have the patient open wide, then close.

- (l) Scrape the inside of the tray everywhere except over the post-mylohyoid eminences to depth of one half millimeter to one millimeter from the border and the retromolar pad.

- (m) Plaster wash in this tray.

The preliminary plaster impression can now be made. However, there are many cases in which this step can be eliminated. If the ridges are relatively good and the case generally straightforward, it is possible that a compound tray is sufficiently accurate to make a cast that will provide an acrylic tray that is acceptable. On the other hand, with difficult cases where the

ridge is almost completely lost and the compound tray is likely to have displaced tissues excessively or exerted pressure in undesirable places, a plaster wash impression is indicated. The procedure for this is as follows:

1. Mix plaster to a thin creamy consistency by sifting plaster into the water. Add only enough powder to take up almost all of the free water. Spatulate for one to two minutes. If Plastogum is used, it should be spatulated in a mechanical mixer for fifty seconds with water at seventy degrees Fahrenheit, using measuring cups for correct proportions. The mix is placed in the prepared tray as for an upper, except in a little more bulk in the distal saddle areas.

2. The tray is then carried to the mouth and seated. The post-mylohyoid extensions are carried into the mouth high and seated one at a time. Then, with a slight rotation, the tray is pushed down into place, and held there with the index finger on top of the tray and the thumbs under the mandible.

3. The lingual plaster is moulded only by having patient's tongue raised and thrust out. Caution the patient to raise the tongue a little and to hold it still while the labial and buccal peripheries are moulded.

4. The labial and buccal plaster is moulded as in the upper by raising the cheek out and up over the buccal flange and the lower lip out and slightly up. Hold the tray in place with a diagonal cross-arch finger position.

5. Complete the lingual moulding by having the tongue thrust out and held until the initial set takes place.

6. When the plaster has set, remove the impression.

Note: As for the upper, never leave patient with impression in the mouth, and maintain a steady, firm, continuous pressure on both sides of the impression.

When the stone cast is obtained from this impression the acrylic tray can be prepared as follows:

1. Dust talcum over the lower cast.

2. Adapt one sheet of wax over the cast.

3. Reinforce by adding more wax to fill out the full contour and width of the cast. Make the lingual flange four millimeters or more thick in the mylohyoid ridge area.

4. Attach three (3) handles, one in the centre of the anterior ridge and vertical to it, and one on each posterior saddle area at the lowest contour of the ridge and vertical to it. Handles should be approximately four millimeters wide, ten millimeters long and ten millimeters in height.

5. Flask, boil out the wax and pack with self-curing acrylic and process.

6. Deflask and remove excess.

7. Remove one half millimeter from the entire impression surface. Remove additional one half millimeter from the crest of ridge and retromolar pad areas. Eliminate all undercuts, particularly below the mylohyoid ridge.

8. Remove one millimeter from the entire periphery with the exception of the distal margin of lingual flange.

9. The tray is now prepared to make the zinc oxide and eugenol wash impression.

The lower plaster wash impression has made possible the construction of a tray that is most ideally suited to obtain the final impression with a zinc oxide-eugenol wash.

The procedure for this is as follows:

1. Prepare patient: (1) plastic apron; (2) vaseline on face around the mouth; (3) gauze pads under the tongue and between cheek and ridge.

2. Use equal lengths of the two tubes of material such as: Coe-Flo, Getz Impression Paste, on a mixing pad.

3. Mix for minimum of 30 seconds until thoroughly blended.

4. Load the tray, remove the gauze pads and carry the tray to mouth by the anterior handle.

5. Seat the tray by putting the left corner into mouth with rotary motion, place left corner then right, have the patient

lift the tongue slightly and seat tray in place. Wait thirty seconds, then:

6. Have the patient open wide for thirty seconds.

7. Have the patient push the tongue against the upper anterior ridge and hold for thirty seconds. Maintain minimum of pressure with fingers on posterior handles.

8. While the patient maintains tongue in above position, rub the thumbs upward over the buccal frena to aid in their moulding the impression (once).

9. Make corrections of wash or tray where and if needed and repeat the wash.

This latter impression is necessary and the plaster impression previously obtained is not good enough for making a denture. Although many dentures are made from impressions that are no better or perhaps not even as good. Plaster has the characteristic of crystallizing suddenly and at the moment of crystallization the mixture becomes set and unmouldable. Until that point is reached, it is free-flowing and does not exert pressure, so that pressure cannot be directed to a certain area. The use of the metallic oxide wash overcomes this deficiency and pressure may be directed to desirable locations by relieving areas of undesired pressure and adding a new mix to the corrected tray.

LOWER CAST AND OCCLUSION RIM

1. Close the tongue space with wax or plaster.

2. Make a stone cast and attach a metal mounting plate.

3. When the stone has set, place the

cast and impression in warm water to soften the impression material and remove from cast. Dry cast.

4. Dust talcum over the cast and rub it into the stone.

5. Adapt one layer of pink base-plate wax over the entire impression area of the cast.

6. Reinforce with fourteen gauge wire from molar to molar region just lingual to and below the height of the crest of the ridge.

7. Occlusion the rim over cast to approximate height of the space formerly occupied by the natural teeth. Lute to the trial base and reinforce with wax to the contour of denture base.

The management of the trial denture base is a critical aspect in dental prosthesis. It has a diagnostic value, enabling the anticipation of the complete denture. It provides time and opportunity to study the esthetics more carefully and make improving changes. To this end the trial base must be carefully prepared to simulate the finished denture in contour, position and size so that occlusal records may be obtained under optimal clinical conditions. The management of the trial denture base and occlusal rims must be a precise and carefully executed procedure if the completed dentures are to be so related to the oral structures that there is complete harmony between the prosthesis and the tissues as they perform together the various functions of mastication, swallowing, speech and respiration.

Dalhousie University.

Sound, sound the clarion, fill the life!
To all the sensual world proclaim,
One crowded hour of glorious life
Is worth an age without a name.

— Sir Walter Scott.

ABSTRACTS

Effects of Antihistaminic Therapy on Diphenylhydantoin Sodium (Dilantin) Gingival Hyperplasia.

JOHN I. INGLE, D.D.S., M.S.D., WILLIAM L. HOWARD, D.D.S.,
AND HAROLD H. ZWICK, D.D.S.

In an attempt to ascertain the effectiveness of the antihistamine, chlorprophenpyridamine maleate, in reducing gingival hyperplasia caused by diphenylhydantoin sodium therapy, a two month investigation was carried through as a double blind study. Antihistamine and placebo capsules, identically sugar-coated by the drug service department of the University of Washington School of Pharmacy, were dispensed as capsule A and capsule B. The identification of the capsules was made known to the investigators only after all statistical evidence had been computed, charted and submitted to analysis.

The epileptic patients were carefully screened for hyperplasia caused by diphenylhydantoin sodium therapy, to determine their suitability for this study, and those selected were instructed to maintain their diet oral hygiene and general health habits as similar to their normal daily pattern as possible. It was

very difficult to maintain the patients on this study. If any patient began seizures, the drug was immediately blamed and the patient usually quit the study. As many patients quit on the placebo (milk sugar) as on the antihistamine. Moreover, as many patients in the placebo group complained of drowsiness as in the experimental group.

The patients, on a periodic recall system were examined clinically, and their pocket depths charted. At the initial and at each subsequent appointment, impressions were taken and study models poured. Scale photographs were also taken at each appointment.

Although in a few instances there appeared to be a change in tissue tone and level, this study does not reveal any conclusive evidence to support the clinical use of chlorprophenpyridamine maleate in the reduction of diphenylhydantoin sodium gingival hyperplasia.

The Journal of the American Dental Assoc.,
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Alveolar Bone Loss as Related to Oral Hygiene and Age

DR. OLAV SCHEI.

The destruction of the alveolar bone is significantly related to the efficiency of oral hygiene. For this study the material was divided into the following age groups; 21 to 25, 26 to 30, 31 to 35, 36 to 40, and 41 to 45.

A set of ten roentgeniographs was taken from each person, and in these the bone height was measured in percentage of "maximum bone height." The alveolar crest was considered to be of optimum height when it was found 1 mm or less from the cemento-enamel junction. Consequently, bone loss was considered to be present only in those cases where the alveolar crest was found more than 1 mm from the cemento-enamel junction.

When the five age groups were compared with each other, continuous loss of bone was observed in all hygiene groups, but the speed was conspicuously higher among those having a poor oral hygiene.

In all the age groups the average percentage of bone loss tends to be higher around the anterior teeth, both in the upper and lower jaw. Next in order are

the molars and premolars. The highest bone percentage was usually found around the cuspids, particularly on their distal surfaces.

In the molar, bicuspid and cuspid area, the bone level was rather symmetrical, with no systematic difference between the right and left side. In the anterior however, the bone percentage was significantly lower on the right side than on the left. This tendency was observed in all the age groups and manifested itself in nearly all of the hygiene groups. The asymmetric bone resorption in the anterior was seen both in the upper and lower jaws, and usually the difference was most conspicuous on the lateral incisors.

Further it was noted that besides being related to the oral hygiene, the bone resorption increased continuously with age.

Apparently right-handed people usually seem to brush the left incisors better than the right ones. This asymmetric toothbrushing manifests itself in more bone loss on the right side.

The Journal of Periodontology
Vol. 30 — No. 1 — Jan. 1959

Science and Truth — Science is teaching man to know and to reverence the truth, and to believe that only as far as he knows and loves it, he can live worthily on earth. Only with the help of truth and science can man vindicate the dignity of his spirit. *Moses Harvey. Humanity of Man.*

EDITORIAL

Live and Learn

Can you afford to attend a dental convention? With budgets such as the current one, anything that is a legitimate tax deduction expense is welcome. Dentists chronically shackled to their offices by pages of appointment obligations sometimes carrying months into the future, must deliberately create freedom from these commitments. An annual summer or winter vacation alone is not enough. Those of us who follow this pattern inevitably decry the benefits of such a break, insisting that the first half of our leisure time slipped by unnoticed while we were still coping with the task of learning to relax. We need only to consult the obituary notices or to read the mental illness data to comprehend fully the fact that for continued good health, regularly spaced breaks are a must.

Another compelling force is our professional obligation to be informed of the most recent advancements and continued improvements in our chosen health field.

This is a moral, professional and legal obligation.

Dental conventions provide a happy solution to all needs. To attend a dental convention we must leave our offices for short periods probably during times of peak tension and emotional stress. A reasonable choice is available as to distance and destination and at the journey's end a course of study is offered under the most favourable conditions. Add to this the tax deductible attraction of a dental convention and the picture becomes truly magnetic. Combined holiday and convention sessions are no longer considered a means of tax evasion. Such procedures are practised only by intelligent opportunists.

Such a perfect package is ours for the opening this June 21-24 in Halifax, Nova Scotia. Here the convention committee of the Canadian Dental Association plans what will surely be a delightful program, touched appealingly with the Maritime

atmosphere so jealously enjoyed by our East coast confreres. Every consideration has been given to making the scientific program the highest in calibre and the social aspects completely memorable. We

can live and learn at the Halifax Convention. With so much to be gained the decision would seem to be whether you can reasonably afford not to attend such a meeting.

Professional Approachability

The lofty pedestal of unapproachability upon which some professions mistakenly perch has been lowered substantially by certain dental groups. Realizing that good performance publicly appreciated, better known as public relations, is often severely jeopardized by patient misunderstandings, numerous dental societies have formed Mediations Committees.

Although such organizations exist fundamentally in the patients' interest, they serve as well to support ethically sound dental practises that have not been fully understood by patients.

Dentist-patient disagreements fall into three broad categories. Fees, denture treatment, and general personality difficulties, are the big three. Other complaints are merely variations of these themes. Perhaps ninety percent of such problems can be resolved readily and agreeably by a little judicious and thoughtful explanation. Hind sight in these instances rings out the virtues of the old adage "An ounce of prevention . . .". Fortunately dentist-patient relationships patched by the services of such committees are usually fortified against repetition.

There are, of course, patients who refuse to be placated by any reasonable and diplomatic explanation. These are the "square peg" patients and like bad debts, must be written off in terms of satisfaction.

Mediations committees usually will heed only written communications from patients. In turn the committee solicits further details from the dentist involved. The contacted dentists are quick to grasp the significance of the services of these committees, and readily furnish the required information. They do this realizing that such committees have no legal status. Failure to co-operate with mediation committee requests obliges the committee to submit the matter to the local disciplinary board for their consideration.

When all information is available for study, the situation can be terminated readily. If the dentist has been at fault — he is told so. If the patient is at fault — he is told so. If the issue was triggered solely by failure in patient-dentist communications, they are brought together to seek an intelligent conclusion.

An interesting and highly useful side service that can be rendered by these committees is apparent when a dentist has dealt fairly and reasonably with his patient but still the patient is dissatisfied. The dentist can and should quickly refer such a patient to the local mediations committee advising him to furnish the committee in writing with all the details.

The dividends for such public services are in the form of satisfaction. The dental profession can be proud of such continuing efforts to serve.

BOOK REVIEWS

Modern Trends In Surgical Materials —

Prepared by: Leon Gillis, M.B.E., M.Ch. (Orth.), F.R.C.S. (Eng.) F.R.C.S. (Edin.), D.L.O. Published by: Butterworth & Co. (Canada) Ltd., Price: \$14.50.

Modern Trends in Surgical Materials has been edited by Dr. Leon Gillis, and is comprised of chapters written by authorities in many fields of endeavour relating to surgery. This book, although it has not been written specifically to cover materials used in the dental field, nonetheless should prove a valuable reference text for dentists.

Chromium Cobalt alloys have proven a great success in Dental Prosthetics due to their resistance to corrosion in oral fluids. The insertion of these materials into tissue in the form of splints or plates provides a more severe test of the metal from the standpoint of its corrosion resistance. The additional problem of setting up a current between two dissimilar metals has been blamed for tissue destruction. Both of these factors are important considerations when assessing the probable tissue reaction which in some cases can be most severe. The gradual dissolution of the metal can provide highly toxic products which cause cell death. As the author states — "Since the physical signs of the two conditions are so similar, it seems certain that cases of corrosion have often been misdiagnosed as sepsis."

A chapter on Dentistry doesn't attempt to deal with the question except in the most general terms. This might be expected, but obviously is not a shortcoming of the book since these materials alone would require a much larger volume. However, there is a wealth of material here for the dentist who is considering the construction and insertion of implant dentures. The experience gained in other areas of the body with implant material will provide a valuable background for assessing failures in this field.

Most of the materials presently used for sterilization are appraised in the most frank terms and their shortcomings admitted. The advent of safer methods for sterilizing with Ethylene Cryoxide gas is mentioned and should provide a valuable advance in our technique. The problem of achieving the sterilization of more perishable materials and the production of gas pockets in tightly packed dressings is pointed out as the weak link in our attempt to achieve complete sterility.

The contributors to this volume are twenty-two in number and their competence covers the entire field of surgery plus the related fields of Chemistry, Physics, Bacteriology, and Anaesthesia. The editor has chosen to interpret "Surgical Materials" in their very broadest sense and in so doing has provided us with a valuable compendium.

John F. Methven.

Handbook Of Orthodontics — Prepared by:

Robert E. Moyers, D.D.S., Ph.D. Published by: The Year Book Publishers, Inc. Pages: 498 — illustrated. Price: \$11.00

The aims of the author — to provide the dental student with an introductory text to orthodontics, and to impart to the practicing dentist fundamental knowledge of orthodontics, applicable to use in everyday practice — are admirably accomplished in this rather uniquely compiled and very practical new book.

The first of the three sections of this book is well arranged. Condensation of material dealing with such subjects as embryological development and growth of the craniofacial skeleton, development of the dentition and occlusion, the role of muscle in facial growth and occlusal development, and the aetiology of malocclusion; all background knowledge necessary to provide, as the author stresses, the all important foundation for orthodontic procedures — the ability to recognize the normal and the abnormal.

The second section, on diagnosis, conducts the reader in a methodical manner through step-by-step procedures for examination of the patient, including those diagnostic techniques necessary to the evaluation, and treatment planning of most clinical problems encountered. In this section Dr. Moyers again emphasizes the responsibility of the family dentist, who first sees the patient, to be able to adequately assess these problems, and to separate those which should be referred to the specialist from those which he may himself treat easily and well.

An excellent manual on treatment procedures, clinical and laboratory techniques, which in the author's opinion, will give ade-

quate results in the hands of the non-specialist, is found in Section III. Intelligent advice on the conduct and practice management aspects of orthodontics in general practice is given. Throughout this section the many, ever present variables in this branch of dentistry are discussed in concise fashion.

As with many texts there may be points for disagreement. The author's reference to imperfect fusion of the maxillary midline suture as an aetiological factor in production of abnormal spacing of the upper central incisors does not enjoy popular acceptance. The reviewer would suggest that the reader approach this matter with caution until further research evidence is presented to substantiate the author's contention.

All subject matter is comprehensively illustrated with diagrams or photographs, and each chapter is followed by a list of references and suggested readings for further pursuit of a specific subject, if desired.

This book is highly recommended as a valuable ready reference in the library of any dentist who wishes, in the field of orthodontics, to discharge capably his responsibility to his child patients.

Wilfred J. McColeman, D.D.S.

CORRESPONDENCE

To the Editor:

I read the January issue of the Canadian Dental Association Journal and was extremely surprised to read Dr. Nord's article on clinical Orthodontics. Your Journal is to be commended for printing such an article. The comments were comparative about the orthodontic standards in America and the criticism was just.

It seems as though there is an orthodontic sputnik in Europe and they are ahead of us in America. My reason for writing this letter is to obtain a copy or two reprints of Dr. Nord's article as I would like to correspond with him regarding some very important questions and techniques that I would like to institute.

Louis Goldblatt, D.D.S., Cleveland, Ohio.

C.D.A. CONVENTION — HALIFAX

VISUAL EDUCATION

Material suitable for the education of *your patients* in your office will form the scientific exhibit, and provision will be made to duplicate those slides which you think will be helpful in talking to your patients. Save time! save words! save confusion! Don't fail to visit the scientific display and hear Mr. Lester Dine tell you how to select and prepare material for your own practice!

PANEL DISCUSSION

"Dentistry During Next Ten Years"

Moderator: Dr. D. W. Gullett

Panelists : Dr. J. D. McLean
Dr. P. G. Anderson
Dr. K. J. Paynter
Dr. H. K. Brown

TABLE CLINICIANS

1. Dr. Don Woodside — "Serial Extraction as an Interceptive Orthodontic Procedure."
2. Dr. Cameron Walsh — "Operative Dentistry under General Anesthesia in the Dental Office."
3. Dr. Ken Kerr — "Functional Impressions for Complete Lower Dentures."
4. Dr. Louis Miller — "Stainless Steels Suit Short Services."
5. Dr. Don Steeves and Dr. William Mulligan — "The Exposure Ligation, and Alignment of Impacted Anterior Teeth."
6. Dr. Len Israel — "Establishing Centric Relation by an Intra-Oral Tracing Device."
7. Dr. Raymond Epstein — "Easy Pulpotomy Mummification Technique for Primary Molars."
8. Dr. S. M. Brown — "Rapid Fabrication of Plastic Retainers and Space Maintainers."
9. Lt-Col W. M. Sinclair and Major W. K. Dicker — "The Movements of the Temporomandibular Joint."
10. Capt. W. F. Shaw — "The Acrylic Jacket Bridge."
11. Dr. D. G. Brett-Williams — "Dental Services Programme in Newfoundland."
12. Dr. Jacques Demers — "Impressions and Models for Restorative Dentistry."
13. Dr. W. H. MacNeil — "Techniques of Local Anesthesia in Oral Surgery."
14. Miss Marilyn Graham — "Office Procedure."
15. Miss Marilyn McFadden — "Mixing of Silicates and Plastics."

THE ASSOCIATION

58th ANNUAL MEETING HALIFAX, NOVA SCOTIA

Board of Governors...June 17-20, 1959
ConventionJune 21-24, 1959
Identification certificates for reduced
rail fares to Halifax are obtainable
from C.D.A. Headquarters.

Ontario Amends Hospital Act to Include Dental Services

Bill No. 98, an Act to amend The Public Hospitals Act was passed by the Ontario Legislature on March 25, 1959. The Act is deemed to have come into force on the 1st day of January 1959.

In effect the Act does two things. First the definition of "treatment" (contained in the Act, 1957) is amended to provide for dental service in those hospitals where such service is authorized by the board of directors of the hospital. In this respect the particular section now reads:

"'treatment' means the maintenance, observation, medical care and supervision and skilled nursing care of a patient and, if dental service is made available in a hospital by its board, includes dental care and supervision of the patient.'

Secondly, the amendment provides facilities in hospitals for the education of dental students. The amended section reads:

'Subject to any existing agreement relating thereto every hospital receiving provincial aid shall provide such facilities for medical students and dental students as the regulations require.'

This legislation constitutes a forward step in dental health services making the services legally established in hospitals of the province.

Fluoridation Recommended in Sweden

The Royal Medical Board of Sweden has recommended the adoption of the fluoridation procedure in communities in the country. "In the opinion of the board," the report to King Gustaf VI said, "the inquiry carried out has shown that fluoridation of public water supplies does not involve any demonstrable health hazards even on prolonged consumption of the water."

Kinsmen give \$12,000 to Springhill Dental Fund

A \$12,000 cheque representing donations from Kinsmen Clubs across Canada to the Springhill Dental Relief Fund was presented recently at a special meeting in Moncton.

The fund is to provide dental care for children of Springhill mine disaster victims. Money raised by Kinsmen after the 1956 mine disaster was devoted to dental care and the 1958 campaign was made for the same purpose. In addition to money raised for the dental fund, Kinsmen Clubs in the Maritime district raised \$55,000 for the general Springhill relief fund.

Professional Advertising

The C.D.A. Public Relations Committee was asked to consider a suggestion concerning professional advertising in printed programs, school year books and similar publications. It was suggested that messages promoting interests of the profession, such as recruitment of dental students, might be used in these publications.

After consultation with the Ethics committee, the PR committee approved the idea in principle. In practice, dentists, when approached to insert their cards in these publications, might refer the request to their dental society. The society might then choose to insert an appropriate message over the name of the society.

The approval of the P.R. and Ethics committees is not intended to contravene any provincial or local custom or regulation on this subject.

The Canadian Dental Association War Memorial Award

As a memorial to Canadian dentists who paid the supreme sacrifice in World Wars I and II, the Board of Governors of the Canadian Dental Association has established a War Memorial Fund. The interest received from this fund, which has been provided through the generosity of the members of the dental profession in Canada, will be used

annually to award two prizes for the best essays upon a subject submitted for competition. This competition is open to fourth-year undergraduate students at Dental Faculties of Canadian Universities.

The subject for the 1959-1960 sessions is .

"THE ROLE OF DENTISTRY IN PUBLIC HEALTH"

First Prize	\$125.00
Second Prize	\$ 75.00

The rules governing this contest have been distributed to the members of the present Third Year class, so that they might prepare for this competition.

LIBRARY

ADDITIONS

A.D.A. AMERICAN COLLEGE OF RADIOLOGY: A practical manual on the medical and dental use of x-rays with control of radiation hazards. 31 p. illus.

ANAIIS DA FACULDADE NACIONAL DE ODONTOLOGIA: Universidade do Brasil, Rio de Janeiro, Vol. X, 1957, 205 p. illus.

DENTAL CLINICS OF NORTH AMERICA: Symposium on crown and bridge prosthodontics. Vincent R. Trapozzano, consulting editor. March 1959, 277 p. illus.

GOLDMAN-SCHLUGER-COHEN-CHAIKIN-FOX: An introduction to periodontia; the post-graduate dental lecture series. St. Louis, Mosby, 1959. 346 p. illus. \$7.75.

GREGG, A.: For future doctors. Chicago, University of Chicago Press. 1957. 165 p. \$3.50.

GROSSMAN, L. I. Ed: Transactions of the Second International Conference on Endodontics. Philadelphia, School of Dentistry, University of Pennsylvania, June 1958. 188 p.

JOHNSON, W. W.: Prescription writing. (Practical dental monographs, March, 1959.) Chicago, Year Book Publishers, Inc.

LANGELAND, K.: Tissue changes in the dental pulp; an experimental histologic

study. From the Norwegian Institute of Dental Research, Oslo, Norway. Pub. in Odontologisk Tidskrift. Vol. 65, No. 4, 1957. 243-386 p. illus.

MACDERMOT, H. E.: History of the Canadian Medical Association, Vol. II. Toronto, Murray Print & Gravure Ltd., 1958. 153 p. illus.

PETERSON, S.: Clinical dental hygiene. St. Louis, Mosby. 1959. 348 p. illus. \$6.75.

ROKERT, H.: A quantitative x-ray microscopical study of calcium in the cementum of teeth. (Acta Odontologica Scandinavica. Vol. 16, Suppl. 25, 1958.) 69 p. illus.

SAMSON, E.: Holy tooth. Bristol, John Wright & Sons Ltd. 1958. 125 p. illus.

SCHEININ, A.: The effect of fluoride (sodium) and potassium fluoride solutions on the solubility of dental enamel; a chemical and histological study. (Suomen Hammaslaakariseuran Toimituksia, Vol. 54, 1958, Suppl. I.) 102 p. illus.

SNEDECOR, G. W.: Statistical methods; applied to experiments in agriculture and biology. 5th ed. Ames, Iowa, The Iowa State College Press. 1957. 534 p. \$7.50.

WORLD HEALTH ORGANIZATION: Comité d'experts de la fluoration de l'eau. Premier rapport, Genève, 1958.

Books — All that Mankind has done, thought, gained, or been: it is lying as in magic preservation in the pages of Books . . . All that a university or final highest school can do for us, is still but what the first school began doing — teach us to read. *Thomas Carlyle, The Hero as Man of Letters.*

THE CORPS



According to this photograph received from Major J. D. Bourque, Senior Dental Officer at Fort Churchill, the severe winter temperatures have not dampened the spirits of the RCDC and civilian personnel employed in the clinic there.

Pictured left to right front row are Captain G. T. Crossman, Sackville, N.B., Major J. D. Bourque, River Bourgeois, N.S., and Captain H. J. Cashin, Bras d'Or, N.S. Back row Mrs. Lorreine Thompson, Campbellton, N.B., Sgt. A. J. Arsenault, Shediac, N.B., and Miss Agnes Gravel, Insinger, Sask.

Colonel A. C. Leman Receives Appointment

Army Headquarters has announced that Colonel A. C. Leman of Toronto will be appointed Command Dental Officer, Central Command Oakville and Commanding Officer No. 13 Dental Company with headquarters at R.C.A.F. Station, Trenton, Ont. He will replace Colonel J. A. MacGowan, who is retiring from the Corps. Colonel Leman is now employed at National Defence Headquarters Dental Clinic in Ottawa.

Officers Attend Courses in U.S.A.

The following officers are attending or have recently attended courses in the USA:

Major L. G. Craigie, Camp Borden, Ont.—Mass Casualty Treatment at the U. S. Naval Dental School, Bethesda, Maryland.

Major J. C. E. McDonald, R.C.A.F. Station, Moose Jaw, Sask.—Complete Dentures at Northwestern University, Chicago, Illinois.

Major J. W. Turner who is attending a course in advanced dentistry at Walter Reed

Medical Center in Washington, D.C., recently won the Medical Center singles badminton title.

Dr. A. J. Harris Receives Promotion and Appointment

Dr. A. J. Harris of London, Ontario, was recently promoted to the rank of Lieutenant Colonel and appointed Commanding Officer, No. 55 Dental Unit R.C.D.C. (Militia).

Lt.-Col. Harris served with the C.D.C. as a dental technician in Canada and the United Kingdom from April 1941 to June 1946. During his undergraduate years at the University of Toronto he was a member of the C.O.T.C. and on graduation in 1950 was appointed to the R.C.D.C. (Militia).

General Efficiency Tour of Inspection

During the month of April Colonel H. L. Harris of the Directorate of Dental Services, Ottawa, inspected R.C.D.C. militia units throughout Canada in connection with the 1959 General Efficiency Competition.

THE PROVINCES

ALBERTA

Dentist Marks 91st Birthday

Dr. A. H. Goodwin of Edmonton, marked his 91st birthday on February 18th, in the Good Samaritan Hospital.

Dr. Goodwin went to Edmonton in 1891, when he set up the city's first "dental par-

lour". Previously, Edmonton's only "dentist" was a member of the North West Mounted Police detachment at Fort Saskatchewan.

Dr. Goodwin was born in Nova Scotia in 1868, attended elementary and high school in that province before graduating from the University of Maryland with a dental science degree in 1889. He lived in the East for two years, before he went to Edmonton. From Calgary to Edmonton, Dr. Goodwin travelled on the second train to run over the CPR tracks. He recalls having to ride in the caboose of a freight train, for passenger service

had not yet started on the line. Time was passed on the trip by walking up and down the train across the tops of the freight cars.

After several years in the log building where he originated his practice, Dr. Goodwin built a little office. At the turn of the century, he gave up his dental practice, moved to Vegreville, took up ranching and entered the real estate business. During his ranching and real estate days he served as mayor of Vegreville four times. In 1912 he opened up a dental office in the town, and practised until his retirement in 1936. Since then he has travelled extensively in the West visiting friends and relatives and joined several excursions to the Maritime provinces.

He returned to Edmonton in 1957. Still very fit mentally and physically, he went to Calgary recently for a birthday celebration with his daughter.

L. M.

Faculty Members Attend Research Meeting

Five members of the Faculty of Dentistry, University of Alberta, attended the general meetings of the International Association for Dental Research and the American Association of Dental Schools. These meetings were held from March 19 to March 25, 1959, in the Sheraton-Palace Hotel in San Francisco. Those attending were Dean H. R. MacLean, Drs. C. R. Castaldi, S. G. Geldart, N. Basaraba, and R. Sills.

A large variety of papers were presented in the sessions of the International Association for Dental Research. The sessions of the American Association of Dental Schools were well presented and much valuable information was obtained. Such meetings stimulate professors and lecturers, resulting in improved standards in the field of dental education.

BRITISH COLUMBIA

Victoria and District Dental Society

In February Dr. D. A. Anderson of Vancouver was guest speaker. His topic "Hormonal Influences in Periodontics," was very interesting and practical.

Two weeks later in March the annual visit of the Canadian Dental Association officials took place. Dr. George M. Dewis, C.D.A. president, outlined the history of the national body and what they have done. Dr. Don Gullett, the secretary, spoke about the profession's past, present and future.

Fraser Valley Dental Society

At the February meeting in Mission, Dr. Basil Plumb of Vancouver presented an interesting clinic on amalgam and rubber dam application. The speaker's informal manner and easy presentation re-awakened in many the realization that it is no harder to do good dentistry than mediocre dentistry.

Dr. E. E. Daniels of the department of pharmacology, U.B.C., spoke at the March meeting on analgesics and pain. He mentioned several new analgesics and compared them with morphine. Dr. Daniels also referred to the use of placebos in dealing with some patients.

Spring Meeting at Trail

The spring convention of the Kootenay Dental Society was held in Trail on Saturday, April 4.

The business session at the Kinsmen Health Centre was followed by an address by Dr. Wes Munsie, B.C.D.A. president, whose topic was association affairs.

During the afternoon Dr. D. A. Anderson of Vancouver presented a clinic on periodontics and in the evening a banquet was enjoyed at the Trail City Club.

D. H. M.

MANITOBA

C. D. A. President and Secretary Visit Winnipeg

The Annual Visitation of the Canadian Dental Association President and Secretary was an outstanding success in Winnipeg. Over one hundred Manitoba dentists attended a

dinner meeting in honour of Dr. Dewis and Dr. Gullett, making it the largest turn-out of dentists at any stop in their western itinerary. The Board of the Manitoba Dental Association are to be congratulated for their efforts, and special mention should be given to Dr. Frank Jones, who capably handled the catering arrangements.

Dr. Jack Abra, the new President of the Association ably chaired the meeting and Dr. T. J. Cooke, the immediate Past-President made a special presentation gift to Mrs. M. MacEwing, the executive secretary of the Association who was leaving this position due to ill health.

Dr. Dewis spoke mainly on the theme of the history of the Canadian Dental Association and what it has done and is doing for our profession. His subject was well chosen in that too many of us take these accomplishments too much for granted, and don't realize the enormous amount of work that goes on continuously in the various committees and boards. He mentioned many of the things that have been brought about through this hard work and effort by many men from all parts of Canada, such as the C.D.A. building and library, the Pension and Savings Plans, the granting of research studentships, and the accreditation of our dental schools. This recital merely of the highlights of its many accomplishments made most of us realize how extremely important a part our Association plays not only in strengthening the profession as a whole but also in enriching each of our own personal lives.

Dr. Don Gullett was introduced very aptly as the prime cohesive which binds the C.D.A. together. He spoke on the changing needs of a profession, and paid tribute to the group of men who, twenty-five years ago reorganized the Canadian Dental Association to create the organization which today is doing so much for Canadian dentistry. He emphasized that continuity of effort is the only sound means of accomplishing anything worthwhile. To achieve this continuity he feels that specialists in the statistical and legal fields will have to be trained in the dental aspect of things and brought together to help form a team which will be able to adequately tackle the multitude of problems which present themselves continuously.

Winnipeg Dentists Annual Curling Bonspiel

The annual one day curling bonspiel of the Winnipeg Dental Society was held at the Granite Curling Club on March 3rd. This event has year by year grown more popular and this year was no exception. Twelve rinks took part, curling four 6-end games each. Needless to say by the end of the third game, the groans and anguish from the once a year curlers far over-shadowed the skips pleas to

sweep. However, by one means or another, and with a few necessary injections of stimulants everybody survived the ordeal and managed to enjoy an excellent dinner and prize presentation.

Dr. Walter Grenkow skipped a rink made up of A. Malkin, Watson and Adler to three wins and a tie to take the first prize donated by the Ash-Temple Co. Dr. Pat Riley's rink took the Denco prize and Dr. Dave McCord's group took the Manitoba Laboratory contribution. There were many cries of complaint when these prizes were awarded but according to the winners, class will tell and justice triumphed once again.

Special thanks should be given to John Tevendale of the Denco Co. who very capably looked after the many details of organization, and to Dr. Russ Wallace who chaired the curling committee.

March Clinic Meeting of Winnipeg Dental Society

The March clinical meeting of the Winnipeg Dental Society featured a speaker whose concept of practicing dentistry, while possibly surprising many of those present, at the same time gave us a glimpse into the future of dental practice.

Dr. J. A. Anderson of Chicago is a man well qualified to speak on "Eliminating Waste Time and Frustrations in Every Day Dental Practice". He is, first of all, an intensely enthusiastic believer in dentistry as a health profession. Secondly he has the necessary curiosity to spend a great deal of time and effort in trying to find out what creates so much hard work and frustration — both to the patient and the dentist in the general practice of dentistry. He, along with other men, applied Time and Motion study techniques to dentistry and they have come up with many new ideas, some of them startling to the fellow who has been going along in the same routine for many years, but all of them logical and practical when applied and instituted properly.

Dr. Anderson illustrated his talk with excellent movies and slides and these proved that the new ideas were certainly advantageous to all concerned. He showed how poorly laid out the standard operating room set-up is and then showed the new-equipment and physical changes that had been incorporated to make the operating room an efficient work producing unit. He also explained his concept of auxiliary personnel and gave proof to this by showing his two chair assistants, his receptionist and his hygienist all working together with him in handling the patient. He went through the various stages of examination, diagnosis and treatment planning. Case Presentation, Production Planning and Res-

torative procedures and in each stage, the auxiliary team did a great deal in making things easier for the patient and for the dentist.

As Dr. Anderson so aptly stated, these things all combined to provide optimum dental service with greater happiness and satisfaction to the dental office team.

At the conclusion of the presentation Dr. Al Cottick very adequately thanked Dr. Anderson and presented him with a buffalo statuette on behalf of the Winnipeg Society.

J.P.B.

Allison Bugden of Corner Brook and Mr. John Forsey, M.H.A. for Humer.

Other social events included a dinner and evening of curling at the Blomidon Country Club and a buffet supper graciously tendered by Mrs. D. A. Poole, wife of the new president.

The next annual meeting will be held in St. John's.

D. K. P.

NOVA SCOTIA

Nova Scotia Dental Services

The Nova Scotia Dental Association has announced the formation of Nova Scotia Dental Services—a non-profit time-payment plan for dental patients. President Dr. A. E. Ervin said the plan will be inaugurated on July 1st. It is similar to plans existing in Saskatchewan and Alberta.

NEWFOUNDLAND

Newfoundland Dental Society

The Sixth Annual Meeting of the Newfoundland Dental Society was held in the city of Corner Brook, January 28-31, 1959. The new officers elected for 1959 are: Past-president, Dr. G. E. Mallam; president, Dr. D. A. Poole; 1st vice-president, Dr. H. J. Hann; 2nd vice-president, Dr. R. W. Ball; secretary, Dr. B. L. Bowden; treasurer, Dr. W. O'Driscoll; journal editor, Dr. D. K. Peters, and C.D.A. Governor, Dr. J. M. Darcy.

Business and clinical meetings were held at the West Coast Sanatorium through the courtesy of Dr. E. S. Peters, Medical Superintendent.

The speakers and their topics were: Capt. William Dickie, R.C.D.C.—Mandibular Joint Arthritis; Dr. H. R. MacLaren, Assistant to the Dental Consultant, Dept. of National Health and Welfare—The Role of Federal Grants in Dental Public Health; Dr. K. M. Kerr, Professor of Prosthodontics, Dalhousie University—Impression Techniques; Major J. McCully, U.S.A.F.—Space Infections.

Following an established custom, the Annual Meeting was held to coincide with the visit of the National President, Dr. G. M. Lewis, and Secretary, Dr. Don W. Gullett. Dr. Gullett outlined the projected plans of the Canadian Dental Association.

Dr. Lewis was principal speaker at the banquet held on the final evening at the Glynmill Inn. Other speakers were Mayor

Dalhousie Dental Students' Banquet

Dr. R. L. Jones was guest speaker at the annual banquet of the Dalhousie Dental Students' Society, held in honour of the graduating class at the Lord Nelson Hotel.

Dr. Jones spoke on psychiatry and dentistry, relating the importance of the oral cavity to emotional disturbances in the individual.

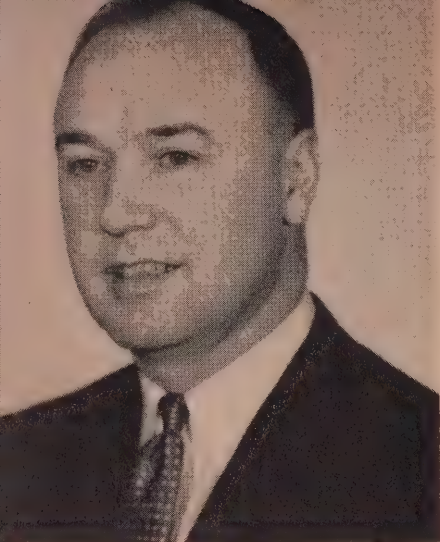
Dr. J. Stanley Bagnall was honoured in absentia, on his retirement this year from Dalhousie's Faculty of Dentistry.

ONTARIO

Highlights of the Session 1958-1959

The 1958 and 1959 session of the Academy of Dentistry, Toronto, has been useful and productive. President, Dr. William A. Weir, and his executive and council can review their term of office with pride and satisfaction.

The year's scientific activities began with



Dr. James A. Bigelow, President of the Academy of Dentistry, Toronto.

the annual dinner meeting in October, with Donald M. Graham, B.A. as guest speaker. November saw the reliable annual Winter Clinic with an increased attendance. January was a particularly productive month, offering the first stated evening meeting along with a special all day session in the Seaway Hotel, to hear the capable Miles R. Markeley. February produced an afternoon and evening session with Doctors Borden and McEwen. The basic program continued at full speed until March which held the delightful dinner dance in the Granite Club. The third and final stated meeting also in March, although competing with hockey playoffs, was a rewarding evening of two essays—one by Dr. Holly Halderson and the other by Dr. George Morgan.

The custom of a dinner meeting for the past presidents of the Academy of Dentistry Toronto is a happy one and affords an opportunity of graciously welcoming the retiring president to this group. Dr. William A. Weir retiring president was officially pinned and welcomed to these dignified ranks by the immediate past president Dr. R. W. Marshall.

Although only the highlights have been mentioned, this year's program has been a full and strenuous one for President Weir and his council. It is therefore even more creditable that they found time to conduct emergency service and mediations committee programs and to plan and move into new

quarters in the R.C.D.S. building at 230 St. George Street.

Dr. Weir justly gave credit to his council members who in turn equally justly claimed only to reflect his splendid leadership.

The new president Dr. James A. Bigelow, signified his respect for his new position and introduced his council members as follows: Dr. Vernon A. Herron, president-elect; Dr. Arthur E. Histrop, secretary; Dr. J. H. Mullett, treasurer; Dr. William A. Weir, past-president; Dr. D. J. E. Mitchell, Dr. J. E. Carson McGowan, Dr. Murray Cornish, Dr. R. M. Grainger, Dr. I. A. Arshawsky, and Dr. Morley Hardy.

E. R. B.

Ontario Society of Orthodontists

A year ago this June, a workshop conference in Orthodontics was held at Ann Arbor, Michigan. Some 200 men, representing our profession and others, from the United States, Canada and several other countries met to discuss Orthodontics as related to the problems of, meeting the demand for orthodontic services, training the undergraduate, training the graduate, the role of the general practitioner, research, relations with other specialties and practice management. This group was made up of men who were orthodontists, general practitioners, public health workers, research workers, teachers, psychologists and other specialists.

It is interesting to note this group's comment on the question of meeting the demand for orthodontic services. "Foreign programs on public health orthodontics require objective study by competent authorities to determine their applicability in North America." In reply to a question as to the place of mass private treatment programs, it was stated that they did not meet the requirements of a good public health service.

Further to this we would like to point out that the Faculty of Dentistry of Toronto has one of the few long range objective programs, in operation since 1951, to study the epidemiology, the nature and treatment possibilities of malocclusion. As well, the Faculty has one of the most extensive training programs in Orthodontics in the world.

J. A. L.

Niagara Peninsular Dental Wives Auxiliary

Dr. George Burgman of Niagara Falls, gave an interesting address on a recent visit to Mexico at the March meeting of the Niagara

Peninsular Dental Wives Auxiliary. Dr. Burgman illustrated his talk with films and several souvenirs purchased in Mexico.

The meeting took place at Leo's Restaurant, near Fort Erie, and the husbands of members were guests for the evening.

Course in Dental Nursing Reinstated at the Faculty of Dentistry, University of Toronto.

On the recommendation of the Council of the Faculty of Dentistry, the Senate has approved the reinstatement of the course in Dental Nursing. Admission requirements will be nine papers of Ontario Grade XIII, which must include English (two papers) and a language other than English (two papers). Early in April, a memorandum will be distributed to the principals of the secondary schools of Ontario providing information about this course, and the excellent opportunities presented to the graduates. It is hoped that sufficient applications will be received to justify reinstating the course in session 1959-60.

QUEBEC

Mount Royal Dental Society Meetings

A meeting of the Mount Royal Dental Society was held on Tuesday March 17th, at the Sheraton Mount Royal Hotel. Dr. A. Colle presided and introduced the clinician of the evening, Dr. Harry Rosen, who spoke on "The old and the new in Restorative Dentistry". Dr. Rosen is a lecturer in the Operative Department of the McGill Faculty of Dentistry and is a member of the Executive of the Mount Royal Dental Society.

The speaker pointed to the many recent advances in Dentistry such as high speed and rubber base materials but stressed that no technique or material is a panacea, rather it is a correlation of the old and the new in Dentistry which is at all times necessary. As an example of this he believes that high speed should be used to rough out preparations but the conventional speeds and hand instruments are still necessary for prophylaxis, polishing and perfecting and completing the preparations. We should not disregard the old in accepting the new but rather we should incorporate the advantages of the old and the new. Dr. Rosen applied the same philosophy to filling and impression materials and techniques.

He demonstrated by means of Kodachrome slides and models the fine results he has been able to achieve with this philosophy. After an interesting discussion period, the speaker was thanked by Dr. Frederic Vosburg on behalf of the members of the Society.

A meeting of the Mount Royal Dental Society was held on Tuesday, February 17th, at the Sheraton Mount Royal Hotel. Dr. A. Colle presided. Dr. D. Muhlstock introduced the guest speaker of the evening, Dr. James McCutcheon, Dean of the Faculty of Dentistry of McGill University. Dr. McCutcheon spoke on "Partial Denture Restoration".

Dr. McCutcheon expressed the gratitude of his Faculty for the support given in the past by the Mount Royal Dental Society and for the part played by the Society in establishing at McGill the Dr. Arthur S. Solomon Memorial Prize.

Dr. McCutcheon spoke on how to develop a pattern in partial denture construction. He emphasized throughout his presentation that we must not do anything to harm the hard or soft tissues of the mouth. According to Dr. McCutcheon the purpose of a partial denture is to establish and maintain normal occlusion. There are three types of partials. 1. Precision attachment. 2. Treatment or assembled. 3. Cast. The Speaker confined his talk to cast partials and advised the use of an anatomical articulator and surveyor. Dean McCutcheon described the use of a clasp which consists of mesial and distal rests and two minor vertical connector bars which are reciprocating the retaining part of the clasp. The retaining part of the clasp is made of wrought wire. With this type of clasp the force is along the long axis of the tooth and causes minimum lateral displacement.

Dr. S. Hershon expressed the sentiments of the Society, thanked the speaker and presented him with a gift as a token of the appreciation of the members.

Montreal Dental Club

The February meeting of the Montreal Dental Club was held in the Queen's Hotel on the 16th of February 1959. The President, Dr. D. C. Gordon, was in the chair.

Dr. R. T. Lamb introduced the speaker of the evening, Dr. D. Kepron one of our Club members, and formerly Assistant Professor of Prosthetic Dentistry at McGill University. Dr. Kepron talked on "A Practical Way to Occlusion", stressing the incisal guidance as

one of the important factors in obtaining a balanced occlusion. Dr. H. L. Mussells thanked the speaker.

The annual Winter Meet of the Club was held on the week-end of February 28th at Quebec City. Twenty-one members spent a very enjoyable time visiting with old friends and testing their skiing ability on the hills at Lac Beauport.

The regular monthly meeting of the Club was held in the Queen's Hotel on Monday, March 23, 1959, Dr. D. C. Gordon presiding. Dr. Gordon introduced Dr. W. Harnott, a new member of the Club.

Dr. J. Vincelli introduced the guest speaker of the evening, Dr. R. Sheldon Stein of Boston. Dr. Stein is a lecturer in the Post-graduate School of Tufts University, as well as being a Research Associate in Periodontology. His excellent talk, which was aided by the use of coloured slides, covered various aspects of mouth rehabilitation. The gingival tissue, he stated, is the final criteria as to whether restoration of the mouth has been carried out effectively. The presence of sound, healthy gingiva indicates the perform-

ance of sound dentistry. Dr. W. C. Bushell thanked Dr. Stein on behalf of the Club.

J. D. F.

Northwestern Quebec Association of Dentists

Dr. H. R. Ironstone, president of the Northwestern Quebec Association of Dentists, was chairman at the regular meeting held in Rouyn on March 7th.

A discussion was held on a Mobile Red Cross Dental Clinic.

Guest speaker, Dr. F. Chabot of Val d'Or was introduced by Dr. R. Paradis of Rouyn. The subject of his discourse was "Difficulties Encountered in the Treatment of Old People." Dr. G. Pinsonneault of Ville Marie thanked the speaker.

After the meeting the dentists joined their wives for cocktails and buffet supper.

The next regular meeting will take place in La Sarre at the beginning of June.

GENERAL NEWS

Medical-Dental Team Ready for Arctic Check-Up

A medical-dental team of six men and one woman left Edmonton in March for the Arctic. During their visit they will check the health of some 1,200 Eskimos living between Pelly Bay, just west of Hudson's Bay on the Arctic coast, and Banks Island, 1,350 miles due north of Edmonton in the Beaufort Sea.

Heading the Indian and northern health services party is Dr. L. E. C. Davies of the Charles Camsell Indian and Eskimo Hospital.

Dentist on the survey is Dr. Hugh McLaren of Ottawa, newly-appointed dental adviser to Indian and northern health services for the dental health division of the national department of health and welfare. The lone woman is Dr. Elizabeth Cass of Ottawa, an eye specialist.

250 Reports Heard At I.A.D.R. Meeting

Some 250 reports in various fields of dental investigation were presented at the 37th general meeting of the International Association for Dental Research held on March 19-22 at the Sheraton-Palace Hotel, San Francisco. The theme was the impact of dental research on the teaching and practice of dentistry. Five sections were devoted to new developments in materials for dental fillings and artificial dentures and to high-speed dental drills. At the annual banquet, March 21st, two research awards were announced: the Hatton Award for the most meritorious presentation by a young investigator appearing for the first time, and the Souder Award in recognition of a distinguished research contribution in the field of dental materials. Dr. Ned B. Williams, of Philadelphia, professor of oral microbiology at the University of Pennsylvania School of Dentistry, is I.A.D.R. president.

Fluoridation for Grande Prairie

Grande Prairie's drinking water will be fluoridated by spring 1959. This announcement was made recently at a city council meeting by the city engineer.

Fluoridation of the city's water supply was favoured overwhelmingly in a vote in November 1957. Grande Prairie will be the second community in the Peace to have fluoridation.

Equipment has been installed and in use at Fairview, north of the Peace for about a year.

Cabinet Official Challenges Fluoridation Opponents

An excellent statement challenging the opponents of water fluoridation was issued by Arthur S. Fleming, Secretary of Health, Education and Welfare, at his news conference Feb. 9. The statement, probably the most forthright public pronouncement on the subject from a high-ranking government official to date, took vigorous issue with the program's failure to be placed in operation in every fluoride-deficient community in the country and pointed out that "the American Dental Association, the American Medical Association and virtually all other scientific and professional organizations having competence in the field have recommended the fluoridation of public water supplies." Copies of the statement are available from the

A.D.A. Bureau of Public Information, 222 E. Superior St., Chicago, 11.

'Denturist' Bill Dies in State of Washington

A "public denturist" bill, permitting technicians to deal directly with the public in the area of prosthetics, has met defeat in a second state legislature. The bill died in committee in the legislature of the state of Washington. Earlier, a committee in the House of Representatives of the Georgia state legislature voted unanimously against a similar bill. In Oklahoma, a committee of the lower house has scheduled a hearing on a "denturist" bill for March 18.

Moose Jaw, Saskatchewan

All dental offices in Moose Jaw were closed on March 7th as a tribute to the late Dr. John S. Meyer. Dr. Meyer and his wife Ilse, died instantly when their small English car skidded into the path of an auto transport truck on March 4th.

Harvard University

Graduates of the Harvard School of Dental Medicine gathered in Boston on Friday, April 10, for the 88th annual anniversary meeting of the Harvard Dental Alumni Association.

The returning alumni were greeted in the morning at the School of Dental Medicine by Dr. Claude W. Thompson, Jr., ('34) of Boston, president of the Dental Alumni Association, Dr. Roy O. Greep, Dean of the Harvard School of Dental Medicine and, Dr. David R. Benninson ('42) of Wellesley, chairman of the Alumni Day program committee.

3rd Annual Institute on Hospital Dental Service Scheduled for May 18-21

Dentists interested in learning more about dental care in hospitals are invited to attend the third annual Institute on Hospital Dental Service to be held in San Francisco, May 18-21, at the Sheraton-Palace Hotel. The institute is being conducted by the American Hospital Association in cooperation with the A.D.A. The American Medical Association is a co-sponsor. Among the subjects on the program will be orienting the dentist to hospital procedures, providing dental service on an outpatient basis, and participating in prepayment plans.

American Association of Dental Schools

Dr. Robert W. McNulty, Dean of the School of Dentistry, University of Southern California (Los Angeles) was elected President of the American Association of Dental Schools at its Thirty-Sixth Annual Session held last week in San Francisco. Other officers elected by the Association were Dr. Raymond J. Nagle, Dean, College of Dentistry, New York University (New York City), President-Elect and Dr. Lester W. Burket, Dean, Thomas W. Evans Museum and Dental Institute School of Dentistry, University of Pennsylvania (Philadelphia), Vice-President. Dr. George W. Teuscher, Dean of Northwestern University Dental School (Chicago) and Dr. Harry Lyons, Dean, School of Dentistry, Medical College of Virginia (Richmond) were elected to continuing membership on the Executive Council of the Association, and Dr. O. M. Dresen, Dean, School of Dentistry Marquette University (Milwaukee) and Dr. Maurice J. Hickey, University of Washington School of Dentistry (Seattle) were named to new positions on the Executive Council, the managing body of the Association. Mr. Reginald H. Sullens (Chicago) was appointed Secretary-Treasurer of the Association and Dr. Marion W. McCrea, Acting Dean, School of Dentistry, University of Minnesota (Minneapolis) was named to the office of Editor.

Dr. John E. Buhler, Dean, Emory University School of Dentistry (Atlanta) and Dr. Francis J. Conley, Professor, School of Dentistry, University of Southern California (Los Angeles) were nominated to membership on the American Dental Association Council on Dental Education and Council of the National Board of Dental Examiners, respectively.

Among actions voted by the representatives of dental education in the United States and Canada was a resolution acclaiming the 100th anniversary of the American Dental Association. The American Association of Dental Schools also went on record urging the Congress of the United States to continue and increase the support of all aspects of dental research activity under the program of the National Institute of Dental Research.

Announcement was made of a \$5,000 grant to the Association by the Fund for Dental Education for the purpose of supporting projects and conferences planned by the Association during 1959.

Fourteen Conference Sessions devoted to various segments of the dental curriculum were attended by more than 500 dental educators from schools throughout the United States and Canada.

The 1960 Annual Session of the Association will be held in Chicago, Illinois on March

20-23. Information regarding the program for the 1960 meeting can be obtained from the Association's Central Office in Chicago.

Nutrition

Man, from a nutritional standpoint, lives through five periods in his lifetime. "Each period," says Dr. Frederick J. Stare, professor of nutrition at Harvard University, "involves different nutritional requirements for the maintenance of good health."

Dr. Stare, heads the Department of Nutrition in the Harvard School of Public Health. He outlined the five periods and discussed other aspects of good nutrition in the annual Isabel Bevier Lecture presented on February 26th at the University of Illinois. His topic was "Nutrition in Relation to Family Life in America."

Certain nutritional factors, Dr. Stare noted, when added to the diet, do reduce the incidence of tooth decay.

"A good balanced diet, plus a small amount of fluorine (one part per million in water) give great and lasting protection to teeth in the formative stages—birth to 16 years—that carries over into adulthood," he said. He termed "unfortunate" the opposition to fluoridation of public water supplies by small but well organized groups. He believes fluoridation is "the most outstanding achievement in the field of improved public health in this generation."

Film on Cross Infection in Hospitals

A 30-minute motion picture dealing with the overall worldwide problem of cross infections in hospitals will be produced co-operatively by the American Medical Association, American College of Surgeons, and the American Hospital Association. This timely and basically imported film has been made possible by the cooperation and support of Johnson & Johnson of New Brunswick, New Jersey.

The film, which will be in sound and colour, is designed to educate all levels of hospital personnel concerning the many avenues by which infection can be spread throughout a hospital and will utilize the staphylococcus by way of illustration and as an example of one of the most important phases of the problem.

The presentation will have its premiere showing at the annual meeting of the American Medical Association in Atlantic City next June, again at the conclave of the ACS in October, and subsequently at professional gatherings throughout the world.

IN MEMORIAM

Otto Levi Weaver — Dr. Otto Levi Weaver of Toronto, died on March 15th, 1959.

Dr. Weaver was born in Williamsburg, Ontario and received his early education in Morrisburg. He graduated from the R.C.D.S. in 1910 and practiced in Cornwall, Ontario from 1910 to 1925, when he moved to Toronto and practiced until 1958.

He is survived by his widow, Hazel, one daughter, Mrs. R. S. Morley and one son, Jack.

Arthur Frederick Brookes — Dr. Arthur Frederick Brookes of Toronto, died on March 2nd, 1959.

Dr. Brookes was born in Toronto in 1902 and received his early education there. He graduated from the Faculty of Dentistry, University of Toronto in 1927 and set up practice in Toronto.

Dr. Brookes was an enthusiastic flier and was a member of the Toronto Flying Club.

He is survived by his widow, Alma Elizabeth; three sons, Arthur Frederick, Trent Roland and Donald Victor; one sister, Gladys May, and two brothers, Stanley and Ernest.

Auriel E. Benson — Dr. Auriel E. Benson of Essex, Ontario, died on March 12th.

Dr. Benson was born in Newfoundland in 1889 and received his early education there. He graduated from the R.C.D.S. in 1917 and practised in Essex.

He was a charter member and past president of Essex Rotary Club; a member of Enterprise Lodge, I.O.O.F. and ex-member of Central Lodge A.F.&A.M. Dr. Benson was actively interested in municipal work and served for several years on the Public School Board, was an ex-councillor and was Mayor of Essex in 1931-32.

He is survived by his widow, Gertrude; two sons, Dr. C. Benson and Dr. H. Benson; three brothers, Dr. Harry Benson, W. J. Benson, and C. S. Benson, also two sisters, Mrs. B. Thistle and Mrs. M. Cramm.

Horace Wood — Dr. Horace Wood, who practised dentistry for 45 years, 37 in Vancouver, died in Kelowna on February 8 after an illness of two months. He was 81 years of age.

Born in Fraserville, Ontario, on New Year's Day 1878, he took his early schooling in Port Hope, Ontario. After teaching for a year, he attended the R.C.D.S. and graduated in 1905.

He practised in Toronto until 1910 when he moved to Vancouver and carried on a practice in the Lee Building at Broadway and Main for 32 years. In 1942 he entered the dental corps and was discharged in 1945 as a major. He then practised again in Vancouver for five more years, retiring in 1950 to make his home in Kelowna.

Dr. Wood took a keen interest in gardening. As a young man he was an athlete of note, having played football for the Toronto Argonauts.

Dr. Wood was one of the first members of the Point Grey Golf Club and was an active member of the Mt. Pleasant Lions' Club.

Surviving are his widow; one son, C. W. Wood of Kelowna; a daughter, Mrs. P. H. Knowles of Vancouver, and three grandchildren.

Edgar Turgeon — Dr. Edgar Turgeon of Montreal, died on March 29th.

Dr. Turgeon was born in St. Jean de Matha, Quebec, in 1886. He graduated from Laval University in 1917.

Hector Julien — Dr. Hector Julien of Montreal, died on March 21st.

Jean R. Lalonde — Dr. Jean R. Lalonde of Montreal, died on March 29th.

Dr. Lalonde was born in Bordeaux, Montreal, P.Q. in 1923. He graduated from the University of Montreal in 1951.

William Ernest Boyd—Dr. William Ernest Boyd of Kaleden, B.C., died in Toronto General Hospital on April 2nd, following a short illness. He was 68.

Dr. Boyd was born in Creemore, Ontario in 1891 and received his early education in Copper Cliff, and Sudbury, Ontario. In 1916, he graduated from the R.C.D.S. and practised in Creemore until 1917 when he joined the C.A.D.C. as Captain. Following his service, he practised in Espanola from 1920 to 1948. Dr. Boyd's first wife pre-deceased him in 1940.

Dr. Boyd was a vital part of the Espanola community and had dental connection with two schools in Espanola from 1923 to 1931, and from 1926 to 1930 with the Clinic of the Spanish River Pulp & Paper Co. He was a past master of Espanola Masonic Lodge, also former president of the library, Red Cross and School Board.

In 1948 Dr. Boyd moved to Kaleden, B.C. where he and his wife operated a fruit orchard.

Surviving are his widow, Stella Mary, a daughter, Beverley; two sisters, Mrs. W. Johnson and Mrs. C. C. Chapman; three brothers, Mr. S. D. Boyd, Rev. C. G. Boyd, and Dr. D. M. Boyd, also three grandsons.

Christopher Norman James—Dr. Christopher Norman James of Midland, Ontario, died suddenly on February 26th at his home. He was in his 60th year.

Dr. James was born in Carp, Ontario, in 1899, and graduated from the R.C.D.S. in 1921.

He was a prominent Midland dentist and sportsman, he had golfed and curled actively all his life. He had skipped his rink the night before his death at the Barrie Bonspiel.

Surviving is his widow; two daughters, Mrs. Webb and Mrs. Israil, and a son, Bill.

Frederick Percival Moore—Dr. Frederick Percival Moore of Hamilton, died on February 27th. He was 79.

Dr. Moore was born in Hamilton in 1879 and graduated from the R.C.D.S. in 1900. He practised in Hamilton for 59 years.

Dr. Moore was a past president of the Hamilton Dental Association, a fellow of the American College of Dentistry, vice-chairman of the Ontario Athletic Commission and a member of the Masonic order.

He is survived by two daughters, Mrs. M. K. Kenney, and Mrs. S. F. Biggar; two sons, F. T. Moore, and R. J. Moore; two brothers, J. Harry, and Dr. M. J. Moore, and one sister, Mrs. F. G. Gould.

Benjamin Foss Orlando Nott—Dr. Benjamin Foss Orlando Nott of North Bay, Ontario, died on March 28th. He was 76.

Dr. Nott was born in Oshawa. He attended the University of Toronto, graduating from the R.C.D.S. in 1908. He established his practice in North Bay and practised there until his retirement in 1953.

Dr. Nott joined the Lebanon Lodge A.F. and A.M. at Oshawa in 1905 and four years later became affiliated with the Nipissing Lodge, where he served as secretary for 33 years. In 1910 he was initiated into the Grand Chapter, Royal Arch Masons of Canada, and in 1912 into the Harington Preceptory, Sovereign Great Priory, Knight Templar. The same year he joined the Ramesses Shrine Club and was later elevated in the Ancient and Scottish Rite. In 1932 he was elected Potente's Aide, and in 1940 headed the poll for election to the Board of General Purposes in the Grand Lodge A.F. & A. M. of Canada.

Surviving are his widow, Ruby, and a son, Robert.

Samuel H. Feldman—Dr. Samuel H. Feldman of Montreal, died suddenly on March 19th. He was 65.

Born in Montreal, he was educated at Laval University, and graduated in 1920. He was a member of the Mount Royal Dental Society and the Alpha Omega Dental Fraternity.

Dr. Feldman was a past member of the board of the Montreal Hebrew Old People's Home. He was also active in the Men's Association of the Shaar Hashomayim Synagogue and a past master of St. George's Masonic Lodge No. 10.

Surviving are his widow Matie, a son, Marvin; three sisters, Annie, Rose and Libbie. Another son, Brahm, predeceased him.

Robert John Morell Montgomery—Dr. Robert John Morell Montgomery, of Toronto, died in March 1959. He was 67.

Dr. Montgomery was born in Cadmus, Ontario in 1892. He graduated from the R.C.D.S. in 1917 and established his practice in Toronto where he practised for more than 40 years.

He was a charter member of the SPEBSQA (Barber Shop Quartet).

Dr. Montgomery is survived by his four daughters, Mrs. W. G. Bates, Mrs. J. G. Rowney, Mrs. G. Lazare, and Mrs. J. W. Kelley, also a son, Bruce, and seven grandchildren.

James Allen Plunkett—Dr. James Allen Plunkett of Lethbridge, Alberta, died on March 5th.

Dr. Plunkett was born in Aylmer, Quebec and received his early education there and attended Buckingham High School. He then entered Queen's University and following his graduation from the Faculty of Dentistry, he enlisted in the Canadian Army Dental Corps and saw service until the end of the First Great War.

Dr. Plunkett practised in Moose Jaw for many years and a few years ago was in charge of the dental department of the Saskatchewan government in that city.

On his last trip east, he lectured on Dental Technology at the University of Montreal.

The only surviving relatives are two uncles, Dr. S. Robert Martin, and Archie N. Martin.

David Alexis Dery—Dr. David Alexis Dery of Quebec, died on March 28th. He was 75.

Dr. Dery was born at Trois-Pistoles, Quebec in 1883. He studied at Rimouski Seminary and Ste. Anne de la Proctiere College, receiving his degree in Medicine from Laval University in 1906 and his degree in dental surgery from the University of Montreal in 1908.

He was governor of the College of Dental Surgeons of the Province of Quebec from 1920 to 1932, and from 1926 to 1957 he was chief of the dental clinic of Laval Hospital at Ste. Foy. He was also a professor at Laval University.

Dr. Dery was one of the founders of the Provencher Society of Natural History of Canada in 1918 and one of the founders of the Laval University Biological station at Trois-Pistoles in 1930. He was an active director of the Provencher society for 40 years, and he was one of the founders of the Quebec Zoological Gardens in 1932.

Dr. Dery is survived by his widow, Blanche; three sons, Lt.Cmdr. Stanislas Dery, Capt. Alphonse Dery, and Major Noel Dery; one sister, Mrs. J. B. Dumont, and eleven grandchildren.

William Harrison Wright—Dr. William Harrison Wright of Toronto, died in March 1959.

He was born in Iroquois, Ontario and received his early education there. He graduated from the R.C.D.S. in 1904 and practised in Toronto until 1942 when he retired.

Dr. Wright was active in many Masonic Order organizations.

He is survived by three daughters, Iva, Thelma, and Muriel.

Roy H. Brown—Dr. Roy H. Brown of Sudbury, Ontario died on March 24, 1959.

Dr. Brown was born in Muskoka District in 1887 and received his early education there. He graduated from the R.C.D.S. in 1910 and practised in Porcupine, Timmins and Kirkland Lake.

He was a member of the Ontario Dental Association. A keen sportsman, he was an executive member of the Sudbury Figure Skating Club.

Surviving are his son, Chester; a daughter, Verlyn; three brothers, Helton, Hubert and Garnet; three sisters, Mrs. S. Kluey, Mrs. M. Andrews and Miss Della Brown.

John S. Meyer—Dr. John S. Meyer of Moose Jaw, Saskatchewan, was killed with his wife, in an automobile accident, on March 4th.

Dr. Meyer was born in Inowraclaw, Poland in 1902. He graduated from the University of Freiburg, Germany, in 1930 and practised in Paris, France, for six years. Following the second World War, Dr. Meyer went to Saskatchewan, and had been practising in Moose Jaw since 1946.

Dr. and Mrs. Meyer are survived by their small son.

William Henry Leach—Dr. William Henry Leach of Guelph, Ontario, died on April 7th.

Dr. Leach was born in 1901. He graduated from the University of Toronto in 1926.

Surviving are his widow, Florence; two sons, Harry and William; three daughters, Betty Ann, Mary Louise, and Nancy Belle; one brother, Dr. J. W. Leach, and one sister, Nellie.

George Harry Forbes—Dr. George Harry Forbes of Lethbridge, Alberta, died suddenly on March 29th. He was 58.

Dr. Forbes was born in Oakley, Michigan, in 1900 and graduated in Alberta in 1931. He moved to Lethbridge in 1932 and practised dentistry there until the time of his death, except for his service with the Canadian Army during World War II. He was a member of the B.O.P.E.—Elks Lodge.

Surviving are his widow, Willetta; two sons, Murray and David; two daughters, Miss Lunne and Mrs. B. McIntosh; a sister, Mrs. E. Dawson; four brothers, Donald, David, William and Wallace, and two grandchildren.

ANNOUNCEMENTS

Conventions of The Canadian Dental Association

1959	Halifax, Nova Scotia	June 21st-24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Ontario)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 28-30, 1959	British Columbia Dental Ass'n. Annual Convention	Hotel Vancouver, Vancouver, B.C.	Dr. W. Ross Upton,	217 Medical-Dental Bldg., Vancouver 1.
May 31-June 3, 1959	Western Canada Dental Society Convention	Banff Springs Hotel, Banff, Alta.	Dr. C. S. Lea,	708 Greyhound Bldg., Calgary, Alberta.
Sept. 10-12, 1959	American Academy of Gold Foil Operators	New York City, N.Y.	Dr. C. C. Latham,	P.O. Box 266, Coronado 18, Calif.
Sept. 10-12, 1959	American Academy of Periodontology	Barbizon Plaza Hotel, New York	Dr. H. A. Hartman,	4187 Pearl Road, Cleveland 9, Ohio.
Sept. 11-13, 1959	American Academy of Implant Dentures	Hotel Plaza, New York City, N.Y.	Dr. A. A. Kulick,	4720 Broadway, New York City, N.Y.
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden,	183 Metcalfe St., Ottawa, Ont.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
May 15-18, 1960	Ontario Dental Ass'n. Convention	Royal York Hotel, Toronto	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
July 11-14, 1960	11th Triennial Pacific Coast Dental Conference	Portland, Oregon, U.S.A.	Dr. K. R. Jensen,	1033 S.W. Yamhill St., Portland 5, Ore.

CANADIAN SOCIETY OF DENTISTRY FOR CHILDREN

Convention Dates

1960	Saturday, May 14th	London
1961	Saturday, May 20th	Toronto

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

The Nutrition Society of Canada will hold its Annual meeting in the School of Hygiene, University of Toronto, on June 12th from 9.30 a.m. to 5.30 p.m. The scientific program will include review papers dealing with recent advances in various branches of nutrition research and the application of nutrition information to humans. Further information from: Dr. G. H. Beaton, Dept. of Nutrition, School of Hygiene, University of Toronto.

The Department of Dentistry of the Michael Reese Hospital and Medical Center will present a six day course in "Diagnosis in Dental Practice — Procedure and Clinical Application" — June 22-27, 1959. Enrollment limited — Fee \$200.00 — For details write: Dept. of Dentistry, Michael Reese Hospital and Medical Centre, 29th Street and Ellis Ave., Chicago 16, Illinois.

Jubilee Meeting of the Canadian Public Health Association in conjunction with the annual meeting of La Societe d'Hygiene et de Medecine Preventive de la Province de Quebec—June 1, 2, and 3, 1959 at the Sheraton Mount Royal Hotel, Montreal, Quebec. For information write to: Dr. G. W. O. Moss, 150 College St., Toronto 5, Ont.

L'Association Dentaire Canadienne.

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JOURNAL

Considérations sur l'assurance-santé*

Par LOUIS BERNIER, D.D.S., Québec, P.Qué.

Pour vous exposer ce problème de l'assurance-santé au Canada, on a fait appel à votre représentant sur ce comité à l'Association dentaire canadienne, et je ne crains pas d'avouer dès maintenant mon incompetence sur ce sujet, puisque je ne m'en occupe que depuis quelques mois. Si vous voyez étalée devant moi sur cette table une pile de documents, ce n'est pas que je veuille vous impressionner, loin de là, mais bien pour vous faire réaliser plutôt que je n'ai pas inventé l'assurance-santé et les quelques explications que je vais vous en donner ne sont qu'une synthèse des travaux qui ont été faits bien avant que je fusse nommé sur ce comité. Ce que je vais vous donner est donc une compilation d'opinions, de notes, d'études et je ne voudrais pas qu'on m'accuse de plagiat. Avant d'aborder le problème de l'assurance-santé, ne pourrions-nous pas brosser un tableau rapide de la santé dentaire au Canada et voir

quelles sont nos positions actuelles. Ces prémisses posées, nous verrons quelle politique l'Association dentaire canadienne entend soumettre à l'approbation des autorités compétentes et quels sont les grands principes qu'elle voudra faire respecter comme notre mandatrice. Les modalités d'administration ont également été étudiées par l'Association et enfin on peut discuter de l'opportunité et de l'imminence de l'assurance-santé.

Tous savent que la carie dentaire ou les maux dentaires, si vous préférez un terme plus générique, affectent les neuf dixièmes de la population canadienne. Le mal est si répandu qu'on est venu à l'accepter comme une situation normale. Les maux dentaires n'étant pas très souvent une cause directe de mortalité, on ne s'est guère appliqué, du moins pendant de très nombreuses années, à trouver des moyens scientifiques d'enrayer ce fléau.

Ce que nous avons pu offrir à date, ou à peu près, contre ce mal qui progresse plus rapidement que nous l'enrayons, ce

*Conférence prononcée à la Société Dentaire de Montréal.

sont des moyens mécaniques et il semble opportun que nous révisions nos méthodes thérapeutiques tel que nous tentons de le faire depuis quelques années.

Les objectifs d'un programme de santé dentaire sont bien définis et sont les suivants:

- 1—Prévenir et contrôler la carie dentaire.
- 2—Inculquer aux enfants en bas âge des habitudes d'hygiène dentaire.
- 3—Diminuer le besoin de traitements d'orthodontie.
- 4—Réduire chez l'adulte la nécessité de soins périodontiques.
- 5—Minimiser le coût des restaurations dentaires onéreuses tels que ponts, partiels ou complets du fait qu'il y aurait moins d'extractions.
- 6—Développer si possible une génération de Canadiens ayant des bouches saines.

Voilà les principaux objectifs de tout programme de Santé et, je le répète, c'est à la lumière de ces objectifs que l'Association dentaire canadienne a posé les principes d'un plan d'assurance-santé dentaire.

Certains confrères se demandent peut-être si c'est l'A.D.C., les collèges provinciaux ou d'autres associations dentaires qui ont mis de l'avant, ici au Canada, cette question d'assurance-santé dentaire. Quelques notes prises dans les Délibérations de ce comité de votre association nationale vous mettront au fait sur la question.

Certains gouvernements provinciaux plus socialisants que d'autres ont approché les autorités fédérales sur l'opportunité d'un tel programme. Vers 1940, le gouvernement fédéral créa donc une commission parlementaire d'assurance-santé. En 1941, cette même commission demandait à notre organisme national de lui soumettre un mémoire sur la question. Ce qui fut fait en juin 1942 (voilà donc plus de quinze ans que l'A.D.C. étudie le problème). En juin 1944, soit deux ans plus tard, un bill était préparé, imprimé et prêt à être soumis à la Chambre des Communes, mais il

ne fut jamais présenté. Cependant l'A.D.C. avait quand même réussi dès cette époque à faire rédiger ce bill à peu près dans les termes exacts de sa déclaration de principes soumise antérieurement.

Plusieurs conférences fédérales-provinciales ont eu lieu depuis et chaque fois on a cru que cette question d'assurance-santé découlerait automatiquement de ces délibérations qui avaient pour objet premier des ententes fiscales bien sûr, mais qui ne contenaient pas moins en gestation tout au moins, des items comme l'assurance-santé.

De guerre lasse, le Gouvernement Fédéral instituait une partie de ce programme en 1956, à la condition que six des dix provinces du Canada, acceptent; je me garde de plus de détails sur ce point. Une chose semble assez paradoxale cependant, c'est que de 1942-57 cette hâte de présenter un plan national d'assurance-santé vient maintenant des provinces alors qu'elles n'en voulaient entendre mot lorsque la mesure fut discutée publiquement pour la première fois en 1941. L'Ontario en est un exemple frappant.

Avant d'aborder la politique même de l'A.D.C. sur cet épineux problème de l'assurance-santé, j'aimerais citer une partie d'un mémoire que ce comité faisait parvenir au Ministère de la Santé et du Bien-Etre Social à Ottawa, pour signaler qu'à chaque occasion l'A.D.C. n'a pas craint d'affirmer qu'elle n'approuvait pas un tel plan d'assurance-santé, mais qu'elle y collaborerait.

Cette attitude prise, voyons maintenant comment l'Association conçoit ce plan d'assurance-santé qui respecterait d'abord l'autonomie des collèges provinciaux, ensuite les relations patients-praticiens et serait le plus susceptibles d'améliorer la santé dentaire au Canada. Nous verrons:

- 1—Les principes qui doivent régir un tel plan.
- 2—Les questions administratives.
- 3—Les campagnes d'éducation.
- 4—La recherche et le service des traitements.

Déclaration de Principes. Article 1.

Après avoir étudié le problème durant des années, l'Association dentaire canadienne soumet ses idées sur tout plan d'assurance-santé qui inclut des traitements dentaires que le gouvernement peut appliquer dans ce pays.

- 1) La profession dentaire se propose surtout de fournir à la population canadienne le meilleur service dentaire possible.
- 2) Pour réaliser ce but, la profession dentaire se déclare prête à collaborer avec les autorités gouvernementales pour trouver des façons d'améliorer la santé dentaire des citoyens du Canada.
- 3) L'Association approuve le principe contributoire de l'assurance-santé, à condition que le ou les plans qui seront adoptés favorisent le plus possible le progrès des services de traitement et de prévention; de plus, il faut que ce plan rende justice à ses bénéficiaires et aux dentistes qui prodigueront les soins nécessaires.
- 4) Le patient devra pouvoir choisir librement son dentiste et celui-ci accepter ou refuser les patients à son gré. Pour qu'un plan de santé réussisse, il faut qu'il comporte des rapports normaux entre patients et praticiens.
- 5) Pour avoir un nombre suffisant de nouveaux dentistes compétents, il faut que les cours d'études soient de la meilleure qualité.
- 6) Des cours post-scolaires doivent être mis fréquemment à la disposition des praticiens pour que leur rendement se maintienne toujours à la page.
- 7) Tout plan d'assurance-santé doit prévoir une organisation de services dentaires dans les hôpitaux; cette condition est essentielle.
- 8) On octroie des licences aux praticiens

surtout dans le but de protéger le public. Ainsi, il va de soi que tous ceux qui désirent exercer la profession de dentiste devraient avoir reçu la meilleure formation de base possible; plus tard, un entraînement adéquat comprenant des sciences, de la technique et de la clinique.

- 9) Un plan d'assurance-santé devrait couvrir tous les aspects de la santé dentaire et comprendre des services de prévention, de diagnostic et de traitement. On devrait aussi songer, dans l'élaboration du plan, aux cas qui nécessiteront l'intervention du consultant et du spécialiste.
- 10) On devrait fixer le taux des honoraires et la méthode de rémunération des dentistes seulement après entente avec les représentants des organismes dentaires. L'Association dentaire canadienne croit qu'une rémunération basée sur des honoraires fixés pour chaque genre de traitement, est de nature à assurer la qualité des services.

Administration

- 11) Avant de légiférer sur l'assurance-santé, il faudra se concerter avec les représentants des organismes dentaires officiels.
- 12) Des commissions indépendantes de toute ingérence politique créées, au niveau national, provincial et municipal, seront chargées d'administrer le plan; ces commissions seront formées de représentants de dentistes et de patients. Les représentants de la profession dentaire seuls décideront des détails concernant l'organisation professionnelle.
- 13) Toutes les nominations de dentistes faites au sein des diverses commissions prévues par la loi, devront être approuvées au préalable par les organismes professionnels.
- 14) On devra procéder graduellement et bien étudier la question avant d'établir les avantages que les bénéficiaires pourront retirer du plan.

*Adoptée à l'assemblée annuelle de l'Association dentaire canadienne, qui eut lieu du 30 mai au 6 juin 1956.

L'Association dentaire canadienne croit que pour réellement améliorer l'état de la santé dentaire de la population, il faudra procéder ainsi:

Education:

- 15) Des campagnes intensives d'éducation en hygiène dentaire devraient être entreprises avant d'établir un plan d'assurance-santé et être continuées après.
- 16) Partout, ces campagnes d'éducation en hygiène dentaire devraient être sous la direction de dentistes diplômés en hygiène dentaire publique.
- 17) Chaque Ministère de Santé devrait avoir une division active de santé dentaire pour mettre en force et pour subventionner au besoin des programmes de dentisterie préventive.

Recherches

- 18) Pour solutionner le problème du contrôle des maladies dentaires, il est essentiel de favoriser le plus possible les recherches dentaires. La réussite d'un service de traitements est conditionnée par une diminution dans la fréquence des maladies dentaires et celle-ci, à son tour, est intimement liée aux mesures préventives qui seront mises au point par les recherches. En organisant le service des traitements, il faudra y inclure des sommes pour la recherche; l'amélioration de l'état de santé dentaire de notre population et les économies qui en résulteront exigent cette prévision.

Service de traitements

- 19) Au début, le plan ne devrait s'intéresser qu'aux enfants parce que les membres de la profession dentaire ne sont pas en nombre suffisant pour réussir à traiter tout le monde; car à peu près tout le monde a besoin de services dentaires.
- 20) Il y a des écarts considérables entre les diverses parties du Canada pour le nombre d'enfants et celui des dentistes; il faudra donc songer à ce problème. Il serait ridicule de mettre

sur pied une organisation pour des services qui ne pourraient pas être prodigués. En regard de la prévention, il vaut mieux donner un service complet aux enfants qu'un service partiel à plus de monde.

- 21) On devrait, chaque année, faire un inventaire du plan avant de lui donner plus d'ampleur pour se rendre compte de l'état de santé dentaire des bénéficiaires, de l'accroissement possible du nombre des dentistes et de l'augmentation ou de la diminution du nombre des enfants.
- 22) Les traitements devraient se donner dans les cabinets particuliers des dentistes, à moins que des facteurs particuliers ou locaux ne s'y opposent. L'Association dentaire canadienne croit que des traitements donnés dans un cabinet particulier, sous la responsabilité personnelle du dentiste, sont encore les meilleurs.
- 23) Le problème de la santé dentaire est compliqué c'est pourquoi il ne faudrait pas élaborer un système de traitements dentaires que les dentistes ne pourraient pas appliquer; l'état de santé dentaire ne s'améliorerait guère. L'Association dentaire canadienne est convaincue que la seule façon de diminuer le taux des maladies dentaires par des traitements consiste à traiter les enfants jeunes.

Pour ce faire, plus étroites seront les relations patients-praticiens, meilleure sera la qualité du travail; le dentiste ne voudra pas plus perdre son patient qu'il ne le fait actuellement en pratique privée. Un plan d'assurance-santé qui ne ferait pas appel à l'idéal professionnel du dentiste est voué à l'échec. Ce premier principe m'amène aussi à discuter de l'opportunité d'avoir dans un tel plan soit un praticien privé, payé pour chaque service qu'il rend ou un dentiste embauché par le Gouvernement, travaillant à heures fixes pour un salaire et un plan de retraite.

Vous conviendrez avec moi que la première solution est la plus heureuse,

mais elle offre quand même un danger qu'on a pu constater dans les pays où on a une forme ou une autre de dentisterie étatisée. C'est qu'éventuellement, le dentiste payé pour chacun de ses services veut augmenter ses revenus; alors il devra ou bien améliorer son rendement ou augmenter la quantité de ses travaux.

A ce moment, il risque d'escamoter des phases importantes de son travail et ceci hélas a été la règle plutôt que l'exception dans les pays ayant une forme ou l'autre de dentisterie étatisée ou socialisée.

Déclaration de Principe. Article 2.

Je suis convaincu que vous pensez comme moi sur ce: qu'il vaut beaucoup mieux accorder notre collaboration entière au Gouvernement, voir même diriger celui-ci dans l'établissement d'un tel plan, que de se laisser imposer un joug qui posera bien lourd sur nos épaules et sur celles de ceux qui nous suivront. Nous ferons quelques commentaires sur les façons d'améliorer la santé dentaire à l'item 18 (recherches).

Déclaration de Principes. Article 3. Service contributoire. Item très important point de vue financier . . . point de vue psychologique.

Sera-t-il appliqué de cette façon? les changements et modifications à ces plans semblent s'opérer plus rapidement que nous ne pouvons les suivre. Attitude actuelle du Gouvernement . . . donner le plus possible—avoir le plus de votes. Répugnance non fondée d'une partie de la population à se prévaloir des services gratuits tels que R.X.—Goutte de lait.—Dépistage cancéreux . . . Si c'est contributoire, le patient n'aura aucune hésitation à réclamer les traitements dont il a besoin car il en assumera partiellement le coût.

Déclaration de Principes. Article 4.

Cet article ne prête pas beaucoup à équivoque et je crois que tous s'entendent sur sa nécessité.

Déclaration de Principes. Article 5.

Ici on pourrait ouvrir une parenthèse.

Discours de Mgr Lussier sur les Problèmes Universitaires . . . Deux Facultés en régression — Chirurgie Dentaire et Pharmacie — Diminuer les frais des élèves en Chirurgie Dentaire par des octrois. Inculquer aux élèves "That the Department of Health, the College of Dental Surgeons and the Faculties of Dental Surgery agree upon the possibilities of including in the curriculum (theoretical and practical) given to the students in dental surgery, more extensive knowledge regarding prevention and conservation.

"Employment of dental hygienists as educators in dental health and auxiliaries of dentists in our Health Units for the carrying-out of certain prophylactic treatments. Employment of full-time dental health officers preferably practising dentists who are now giving dental services on a part-time basis in Health Units so that a greater number of indigent children may benefit from the free dental treatments."

Déclaration de Principes. Article 6.

Ces cours devraient être obligatoires (le mot est peut-être un peu fort) mais on devrait favoriser une rotation qui permettrait à un certain nombre de dentistes chaque année de se perfectionner—tout au moins se rafraîchir la mémoire.

Déclaration de Principes. Article 7.

Le problème se pose déjà avec le plan d'hospitalisation qui entrera en vigueur en 1959.

Déclaration de Principes. Article 8.

On pourrait ajouter "de l'Ethique professionnelle" déplorable situation à l'heure actuelle.

Déclaration de Principes. Article 9.

Service de prévention? L'expression dentisterie préventive est assez empirique; elle n'a pas beaucoup de sens: médecine préventive veut dire par contre qu'elle possède des vaccins spécifiques pour prévenir telle ou telle maladie. Nous sommes encore presque limités à la dentisterie restaurative.

Déclaration de Principes. Article 10.

Ceci implique pour nous comme pour les autres une consultation avec les différentes sociétés dentaires de la Province aussi bien que les organismes interprovinciaux et fédéraux. Obtenir à peu près la même échelle d'honoraires à travers le Canada.

ADMINISTRATION DE CE PLAN.

Déclaration de Principes. Articles 11, 12, et 13.

Déclaration de Principes. Article 14.

*EDUCATION:**Déclaration de Principes. Article 15.*

Il est psychologique que ces campagnes d'éducation devront être soutenues même après que le plan aura été lancé. Il est facile d'imaginer le manque d'intérêt du public après quelque temps si nous n'insistons pas sur la nécessité d'une bonne hygiène dentaire.

Déclaration de Principes. Article 16.

Il est admis que les mieux qualifiés pour ce travail seront les dentistes hygiénistes appelés à faire cette éducation du public.

Déclaration de Principes. Article 17.

Je réitère ici que le terme dentisterie préventive me paraît encore une fois empirique, c'est-à-dire bien plus basé sur l'usage que sur des données scientifiques réelles — Il existe une médecine préventive... existe-t-il une dentisterie préventive? I. E. Le brossage des dents est-il pour la carie dentaire l'égal d'un vaccin pour une maladie spécifique, La seule mesure qu'on ait trouvée depuis quelques années qui pourrait remplir partiellement les conditions de cette expression c'est la fluoration des eaux de consommation et encore là faudrait-il faire l'unanimité d'opinions chez la profession dentaire même, car, si je ne m'abuse, elle n'est pas encore réalisée.

*RECHERCHES Déclaration de Principe.**Article 18.*

On peut affirmer sans ambage que la profession dentaire n'a guère été favorisée sur ce plan — on a bien fait des progrès

scientifiques sur la qualité des matériaux employés en dentisterie restaurative, on a amélioré les diverses médications de la chirurgie dentaire, mais on ne s'est guère attardé sur les causes premières de pathologies et les moyens d'y remédier. Je serais tenté cependant d'invoquer plusieurs raisons pour motiver cette absence de goût ou d'inclination à la recherche dentaire en ce qui nous concerne spécialement. Les principales raisons sont sûrement, 1—le manque de ressources pécuniaires, 2—le désintéressement des autorités publiques vis-à-vis le problème de la santé dentaire. 3—Les besoins immédiats d'une population en regard du nombre relativement peu élevé de dentistes, sauf peut-être dans les grands centres. 4—Le nombre ultra limité de bourses mises à la disposition de ceux qui voudraient faire des études post-universitaires. 5—Le manque de facilités locales ou régionales pour parfaire de telles études. Autant de raisons qui peuvent nous excuser partiellement d'être aussi débordés par cet unique problème de la carie, même sans assurance-santé.

Déclaration de Principes. Articles 19, 20 et 21.

Je traite ces trois articles ensemble, car ils sont intimement liés. Il serait peu recommandable en effet que dans l'éventualité d'un tel plan la profession dentaire accepte d'emblée d'y souscrire, sans imposer aucune limite d'âge et sans déterminer les services rendus. Ce serait vouloir combler un abîme sans fond et risquer d'en crever, sans même avoir la satisfaction d'avoir pu réaliser quelque chose pour la santé dentaire de nos concitoyens. On propose donc que le plan s'applique d'abord aux enfants jusqu'à l'âge de seize ans et que d'année en année, après inventaire, on élargisse les cadres d'un tel plan selon les besoins de la population et la capacité des dentistes de servir cette même population. Que le Gouvernement mette en vigueur un tel plan à brève échéance, nous serions dans une piètre situation. Le problème du nombre des dentistes pour desservir la population se pose déjà avec acuité chez-

nous. Pour ne citer qu'un exemple, dans le Québec métropolitain où on compte une population d'environ 275,000 âmes, on trouve 72 dentistes soit un dentiste par près de 4,000 de population. Dans le Comté de Dorchester, situé au sud-est de Québec, où on compte 33,000 habitants il n'y a qu'un seul dentiste en permanence et combien d'autres régions de notre province ne pourrait-on citer? Les nouveaux gradués comblent à peine les pertes subies soit par décès, retraits ou maladies et la population infantile augmente d'année en année à un rythme effarant. C'est pourquoi j'affirmais tout à l'heure que, même sans l'assurance-santé, nous avions déjà à résoudre des problèmes de service au public, qui vont devenir très éminents à brève échéance.

Déclaration de Principes. Article 22.

Aurons-nous oui ou non l'assurance-santé dentaire, si oui . . . à quel moment? Voilà deux questions auxquelles je voudrais tenter de répondre ou plutôt de vous exposer des faits. Je sais que plusieurs d'entre vous devez vous les exposer.

1. — Je me reporte à la déclaration du Représentant du Collège des Chirurgiens Dentistes de l'Alberta qui déclarait en substance ceci: "Le public n'exige pas actuellement le programme d'éducation en hygiène dentaire et il est probable qu'il ne le fera pas pour plusieurs années encore jusqu'à ce qu'il ait accepté et digéré les plans d'assurance-santé médicale. Il n'y a donc pas lieu d'élaborer des plans complets de santé dentaire tout de suite: contentons-nous d'en organiser un qui soit bien équilibré et de le réaliser phase par phase." Cette déclaration pourrait s'appliquer sans en changer un iota à la province de Québec et je ne crois pas qu'on soit prêt dans le Québec à réclamer un programme d'assurance-santé dentaire ou, si nous désirons l'assurance-santé, nous devrions entreprendre une immense campagne de publicité pour créer ce besoin dans le public de *services dentaires*.

2. — Les associations ouvrières au Canada ne sont pas si promptes qu'on le

croirait à réclamer de tels services. Ce fut le cas il y a deux ans quand le Congrès Canadien du Travail voulut inclure dans un mémoire au Gouvernement Fédéral des demandes de services hospitaliers, médicaux et dentaires qu'ils ont rayés par la suite après qu'on leur eût expliqué les difficultés immédiates d'application d'un tel plan et les émoluments qu'ils devraient nécessairement verser à sa réalisation.

Il y a quelque temps, soit en août ou en juillet, le Financial Post de Toronto, qui, admettons-le, a une grande influence dans le monde des affaires au pays, fustigeait dans un éditorial le plan d'assurance-hospitalisation, tel que mis en vigueur par le Gouvernement.

Dans le même ordre d'idées, la Chambre de Commerce du Canada déclarait ce qui suit: "Dans le domaine du Bien Être social, la Chambre de Commerce croit qu'une distinction doit être établie entre ce qui est socialement désirable comme fin et ce qui peut être réalisée sans chambarder le système par lequel le bien-être social peut progresser au rythme des besoins." Une publication très récente réalisée à la demande de la Canadian Life Insurance Officers Association par une firme indépendante de Toronto adoptait dans son ensemble une attitude plutôt défavorable à l'endroit de l'assurance-santé en général et l'assurance-hospitalisation en particulier. Un paragraphe cependant nous intéresse plus particulièrement dans cette étude et, quoiqu'il ne soit peut-être pas exact de détacher un paragraphe de son contexte, je me permets cependant de vous le citer en guise de conclusion.

"Sixth, the most pressing gap in our health care pattern, with the possible exception of home nursing and domestic services for convalescents, appears to be the variation in dental care as between different income and age groups in the population. Herein perhaps lies a better case for public care than in the medical field. In dental care, however, the evidence perhaps points to ignorance as much as poverty as the villain. Indications are that at very least dentists and

public health authorities should make a much greater educational effort.

Nous ne voulons pas vous donner l'impression que nous sommes en faveur de l'établissement d'un plan d'assurance-santé; nous croyons qu'il faudra encore consacrer beaucoup de temps pour étudier ce problème. Nous désirons vous faire part que nous sommes persuadés qu'il ne serait pas bon d'établir un plan d'assurance-santé ou de santé publique sans y inclure un service dentaire essentiellement de nature préventive, tel qu'il en sera fait mention plus loin.

1. — Le Lieutenant-Gouverneur-en-Conseil, en collaboration avec les Collèges des Chirurgiens-Dentistes des diverses provinces (tel que décrit dans le principe no 3 joint à ce mémoire) instituera un Comité Dentaire Central et des Comités Dentaires Régionaux. Ces Comités rendront compte au Directeur de l'Assurance-Santé de l'administration des services dentaires et de tout ce qui se rattache à l'exercice de la dentisterie en conformité avec la loi d'assurance-santé.

2. — On constituera dans chaque province un Conseil d'Assurance-Santé sur lequel siégeront des délégués des professions médicale, dentaire, infirmière, pharmaceutique, et des hôpitaux et des représentants de l'industrie, des unions ouvrières et des organismes urbains et ruraux de femmes. Cependant, la majorité des membres du Conseil devra être constituée de praticiens médicaux et dentaires dûment licenciés.

3. — On constituera un Conseil National d'Assurance-Santé, sur lequel siégeront des délégués des professions médicale, dentaire, infirmière et pharmaceutique, des représentants du Conseil des Hôpitaux, de l'industrie, des unions ouvrières et des organismes urbains et ruraux de femmes; cependant, la majorité des membres du Conseil devra être constituée de praticiens médicaux et dentaires en règle.

4. — On constituera une Commission dont la fonction sera d'administrer la loi de l'assurance-santé.

5. — Si on croit utile de nommer des inspecteurs pour voir au bon fonctionne-

ment de la loi de l'assurance-santé, ces inspecteurs, en ce qui concerne la dentisterie, devront être des membres en règle de la profession dentaire.

Bénéfices des assurés

1. — Examen dentaire, tous les six mois.
2. — Traitement prophylactique tous les six mois, si nécessaire.
3. — Obturations faites en acrylique.
4. — On permettra l'usage de matériaux et d'appareils spéciaux pour le traitement des cas d'accidents.
5. — Extractions et chirurgie buccale, si nécessaires.
6. — Anesthésie, si nécessaire.
7. — On prévoira une procédure qui permettra de référer le patient pour des services spécialisés.
8. — Radiographies, si nécessaires.
9. — On prévoira, l'usage de matériaux autres que ceux énumérés pour le traitement ordinaire des enfants.

Pour répondre aux exigences par l'accroissement futur du plan d'assurance-santé, en ce qu'a trait à la dentisterie, il faudrait songer aux points suivants:

1. — Octroi annuel pour favoriser les recherches dentaires en vue de réduire la fréquence des pathologies dentaires.
2. — Octroi annuel pour l'éducation en hygiène dentaire du public et de la profession dentaire. La profession reste convaincue que l'éducation en hygiène dentaire est intimement liée au succès de tout plan; l'expérience du passé prouve, sans l'ombre d'un doute, qu'une campagne soutenue en hygiène dentaire abaisserait à la longue le coût des traitements.
3. — Octroi substantiel aux facultés dentaires du Canada pour qu'elles puissent intensifier leur enseignement; le nombre des dentistes devra augmenter sensiblement pour répondre aux besoins de l'avenir, quand le nombre des assurés deviendra plus considérable.

1024 avenue des Erables

Congrès de l'Association dentaire canadienne et de l'Association dentaire de la Nouvelle-Ecosse, à Halifax du 21 au 24 juin 1959

A tous les membres de l'Association dentaire canadienne

J'invite sincèrement tous les dentistes du Canada et leurs épouses à participer au Congrès conjoint de l'Association dentaire canadienne et de l'Association dentaire de la Nouvelle-Ecosse, qui aura lieu dans la vieille ville d'Halifax, du 21 au 24 juin.

Nous songeons tous à nos vacances, à cette époque de l'année; ce serait une bonne idée, pour cette fois, de joindre l'utile à l'agréable et d'assister à cette réunion scientifique.

Les comités chargés de son organisation ont mis sur pied un programme de cliniques de premier ordre et une série de réception et de visites qui sauront vous plaire.

Nous vous attendons et nous ferons en sorte que votre voyage à Halifax en vaille la peine.

G. M. Dewis, D.D.S.

Président de l'Association dentaire canadienne

Programme

Education visuelle

L'exposition scientifique consistera en matériel utile pour faire l'éducation des patients au cabinet du dentiste. Les visiteurs de l'exposition pourront se procurer des copies des diapositives qu'ils croient pouvoir leur être nécessaires pour expliquer certaines phases de leurs traitements à leurs patients. Soyez clairs! Epargnez du temps et des paroles! Ne manquez pas cet étalage scientifique et d'entendre M. Lester Dine vous expliquer comment choisir et préparer votre matériel pour instruire votre clientèle!

Colloque sur la dentisterie des dix prochaines années

Une discussion de groupe traitera des tendances que prend de nos jours l'exercice de la dentisterie.

Le modérateur de ce colloque sera le docteur Don W. Gullett. Il sera assisté des docteurs J. D. McLean, P. E. Anderson, K. J. Paynter et H. K. Brown.

Cliniques de table

1. Dr Don Woodside — "Plan d'extractions systématiques pour prévenir des malocclusions"
2. Dr Cameron Walsh — "Dentisterie opératoire sous anesthésie générale dans le cabinet"
3. Dr Ken Kerr — "Empreintes fonctionnelles complètes des crêtes inférieures"
4. Dr Louis Miller — "Raccourcis dans l'utilisation de l'acier inoxydable"
5. Drs Don Steeves et William Mulligan — "Débridement, ligature et mise en occlusion des dents antérieures incluses"
6. Dr Len Israel — "Enregistrement de l'occlusion centrique par un appareil intra-oral"
7. Dr Raymond Epstein — "Momification et pulpotomie des molaires primaires rendues faciles"
8. Dr S. M. Brown — "Confection rapide d'appareils en plastique pour la rétention et le maintien des dents en position normale"
9. Lt.-Col. W. M. Sinclair et Major W. K. Dicker — "Les mouvements de l'articulation mandibulaire"

10. Capt. W. F. Shaw — "Pont de coiffes en plastique"
11. Dr D. G. Brett-Williams — "Programme de traitement dentaires à Terre-Neuve"
12. Dr Jacques Demers — "Empreintes et modèles pour la dentisterie restaurative"
13. Dr W. H. MacNeil — "Technique d'anesthésie locale pour la chirurgie buccale"
14. Mlle Marilyn Graham — "Organisation du travail dans un cabinet"
15. Mlle Marilyn McFadden — "Préparation des silicates et des plastiques"

Programme des dames

Dimanche, le 21 Juin 1959

Inscription

Soirée: concert et consommations

Lundi, le 22 juin

Inscription

(on servira le café de 9.30 à 10.30 hres, a.m.)

Soirée: fête de plage

Mardi, le 23 juin

Tournée du port en bateau

Thé au Sherrieff Hall

Mercredi, le 24 juin

Visite de la ville; café à la Citadel Hill

Déjeuner avec les messieurs

Dîner et bal du Président

ACTIVITES SPECIALES

ASSOCIATION DU CORPS DENTAIRE ROYAL CANADIEN

Un cocktail intime aura lieu dans le Mess des officiers, mardi, le 23 juin, à 7.30 hres, p.m.

Cette réunion permettra aux officiers reformés et actifs du Corps et aux dentistes qui sont vétérans d'autres armes de renouveler d'anciennes amitiés. Les dames sont cordialement invitées.

Le Mess des officiers est situé rue Barrington, Halifax, N.-E.

On peut obtenir des billets aux guichets d'inscription.

EXPOSITION ARTISTIQUE

On a fait venir expressément de Paris, pour le Congrès de 1959, plusieurs originaux du fameux peintre français, le docteur Solot, qui est dentiste.

Ces toiles ont beaucoup de valeur et sont en grande demande dans tous les Congrès dentaires du monde entier.

EXPOSITION COMMERCIALE

Il y aura une exposition considérable de matériel dentaire (équipement, instruments, produits, etc. . .), où les congressistes pourront voir les réalisations les plus récentes de fourniture dentaire.

Les salles d'exposition seront ouvertes de 9.00 hres a.m. à 7.00 hres, p.m., lundi et mardi et de 9.00 hres, a.m. à midi, mercredi.

GOLF

Il y aura un tournoi spécial de golf qui durera trois jours pour disputer deux trophées. Les joueurs, à leur convenance, pourront jouer au club de Golf Brightwood. Dartmouth ou Ashburn, à Halifax. On aura des renseignements aux guichets d'inscription.

AUTRES DISTRACTIONS

Les congressistes qui sont intéressés au tennis, à la nage, au yachting, à la pêche en pleine mer ou de ruisseaux ou de lacs peuvent obtenir des détails au guichet des renseignements.

Propos sur les manifestations bucco-dentaires au cours de la grossesse

Ce sujet a déjà fait l'objet de nombreuses communications où les auteurs à vrai dire n'ont pas toujours été d'accord.

Dans la *Revue du Praticien* 1er sept. 1958, p. 2567), A. Mugnier reprend ce thème de façon si pertinente, que nous n'hésitons pas à en donner un résumé:

1. ACTION DE LA GROSSESSE SUR LA CAVITÉ BUCCO-DENTAIRE A. MUQUEUSES

La grossesse exerce-t-elle une influence sur la muqueuse buccale?

Certainement, ces faits sont prouvés expérimentalement et cliniquement.

1. Chez l'animal

Chez le *Macacus Rhesus*, les injections de complexes hormonaux de femmes gravides provoquent des modifications gingivales macro- et microscopiques: hypertrophie et congestion des languettes et de la sertissure gingivale avec parfois hyperplasie et hyperkératose de l'épithélium.

C'est l'injection d'œstrogène qui semble provoquer au maximum l'hyperplasie épithéliale avec kératinisation.

2. Chez la femme

La muqueuse buccale de la femme reflète assez exactement les modifications de sa muqueuse vaginale bien que de façon plus atténuée. Pendant la grossesse, l'épaississement du chorion et de l'épithélium est important; on note une vascularisation intense avec tendance œdémateuse déjà notée par Parma Finlande au cours de ses recherches capillaro-microscopiques sur la gencive des femmes enceintes.

Ces modifications histo-cytologiques de la muqueuse buccale sont-elles un phénomène normal ou pathologique?

La grossesse est un ensemble de phénomènes physiologiques. Les modifications de la muqueuse buccale sont elles aussi transitoires et sans lendemain. Mais il est difficile de dire où commencent les caractères pathologiques puisque ceux-ci ne sont en l'occurrence qu'une accentuation de ceux-là. La grossesse n'a donc une influence pathologique sur la muqueuse buccale que lorsqu'elle déclenche une gingivite gravidique.

Quels sont les signes cliniques de la gingivite gravidique?

1. Forme type

C'est une gingivite congestive et hypertrophique généralisée qui acquiert tous ses caractères vers le troisième mois.

Très rapidement, les languettes intermédiaires prennent un ton rouge qui tranche sur le reste de la fibro-muqueuse gingivale. Puis ces languettes s'hypertrophient, saignent au contact, mais à aucun moment il n'y a

de *cul-de-sac vrai*. La sertissure ligamentaire reste intacte comme le confirment les radios.

Cette gingivite semble avoir son maximum vers le cinquième mois, mais peut augmenter légèrement jusqu'au huitième-neuvième au moment où la courbe œstrogénique arrive à son maximum. Elle subit une régression brutale en quelques jours, parfois après l'accouchement, souvent après la première montée du lait. Elle disparaît ensuite sans laisser de trace, à condition qu'il n'y ait aucune lésion parodontique antérieure.

2. Formes cliniques

Des formes du premier mois atteignant la région incisivo-canine ont été décrites. Il peut même arriver que le stomatologiste avertisse sa malade d'une possibilité de grossesse, sur la vue d'une gingivite congestive et hypertrophique inopinée dans une bouche régulièrement surveillée.

En dehors des formes d'apparition plus ou moins précoces, il existe toutes les nuances entre les formes frustes et les formes compliquées.

Certaines gingivites sont à peine apparentes, parfois, elles ne sont pas généralisées. Mais une gingivorrhagie peut aussi devenir un élément dominant.

A l'opposé, certaines gingivites sont surtout dominées par une réaction hypertrophique: elles sont peu congestives et saignent peu.

Enfin, il y a des stomatites gravidiques à répétition qui sont plus fréquentes, lorsque l'enfant est du sexe mâle.

Quant à l'épulis gravidique, il est souvent lié à une lésion préexistante de la gencive.

Toute gingivite apparaissant au cours de la grossesse mérite-t-elle le qualificatif de gravidique?

Pour mériter ce titre, certains caractères sont nécessaires, qui ont été décrits au chapitre précédent. Mais la femme enceinte peut bien entendu voir apparaître une gingivite sans rapport avec son état. C'est alors au spécialiste d'en préciser et l'étiologie et le traitement.

Quelle est l'étiologie de la gingivite gravidique?

a) Femmes à denture défectueuse

C'est le cas le plus fréquent et c'est ce qui explique que la forme prise comme type soit rare.

Les phénomènes congestifs et hypertrophiques qui caractérisent l'état gravidique au niveau des muqueuses accentuent un état pathologique préexistant, plus ou moins évident jusque-là. C'est alors que certaines papilles sont plus touchées que d'autres et l'on retrouve à ce niveau une dent de sagesse

en évolution, un cul-de-sac avec lyse alvéolaire, une obturation un peu débordante, une couronne mal sertie au collet, une prothèse adjointe mal ajustée.

b) *Femme à denture saine*

C'est seulement dans ce cas que l'on peut retrouver la gingivite gravidique à l'état pur due vraisemblablement à un déséquilibre dans les sécrétions hormonales.

Peut-on guérir une gingivite gravidique?

L'inefficacité des traitements habituels témoigne bien que l'on est en présence d'une gingivite gravidique.

On doit supprimer bien entendu toute cause irritative, mais même l'hygiène la plus impeccable ne prévient pas cette affection.

La thérapeutique hormonale, délicate à manier en temps normaux, l'est encore davantage au cours de la grossesse, c'est l'affaire de l'obstétricien.

Signalons cependant certains cas où à l'occasion d'une hormonothérapie justifiée, on a pu voir disparaître, au moins momentanément, la gingivite. En cas de poussée congestive plus marquée on peut faire prendre de la vitamine C, plus active par voie parentérale. En cas d'hémorragie, attouchements d'acide trichloracétique (nous recommandons l'ATS de *Darcissac*, Réd.), hémostatiques locaux, extraits de levure de bière (2-3 mg. par jour pendant sept jours), riboflavine *per os* (5-15 mg. par jour pendant trois à sept jours).

B. DENTS

Que reste-t-il du vieux adage: "Chaque enfant coûte une dent à sa mère?"

Un grand nombre d'auteurs ont fait des statistiques dont les conclusions à tirer sont que les femmes enceintes examinées dans des maternités hospitalières ou cliniques, présentent un état bucco-dentaire mauvais ou déplorable dans 50 à 90% des cas. Le pourcentage des caries semble augmenter avec l'âge des femmes plus qu'avec le nombre de grossesses.

La grossesse provoque-t-elle une décalcification des dents?

Chez la mère, l'augmentation progressive de la rétention aqueuse, portant plus particulièrement sur les liquides extra-cellulaires, n'est pas sans avoir de répercussions sur le taux des éléments minéraux; l'équilibre phosphocalcique se trouve modifié. Cependant les avis divergent quand il s'agit du taux de la calcémie.

Le fœtus édifie son squelette grâce au calcium maternel. Mais les lésions dentaires ne s'observent que lorsque le fœtus prélève sur l'organisme maternel plus que ce dernier ne peut lui en fournir.

Si l'émail, étant donné sa biologie stable, ne peut entrer en ligne de compte, tout le problème reste centré sur le métabolisme de

la dentine. C'est du même coup toute l'étiologie de la carie qui rentre en scène et chacun sait que l'on est encore loin de connaître la solution du problème.

La calcithérapie est-elle alors inutile comme traitement prophylactique des caries au cours de la grossesse?

Si le métabolisme minéral de la dent est pratiquement nul au cours de la grossesse, il n'en va pas de même quand il s'agit du fœtus. Les échanges sont intenses au moment de la formation de la dent et la dentition fœtale peut souffrir d'un déséquilibre du régime maternel. Un apport de sels minéraux tel que Ca, P, et fluor au régime diététique solide et liquide de la mère, présente un réel intérêt.

La grossesse n'a-t-elle donc aucun effet sur la denture de la mère?

Dès 1907, *Tellier* avait attiré l'attention sur les modifications de la sensibilité dentinaire au cours de la grossesse. Il faut reconnaître que les odontalgies sont plus fréquentes, de même les pulpites par carie ou par extension de cul-de-sac. Les parodontolyses s'aggravent également. La grossesse n'est donc pas sans effet sur la denture de la femme enceinte, mais on peut se demander s'ils ne surviennent pas surtout chez des femmes qui supportent moins bien que d'autres un certain déséquilibre humoral.

C. SALIVE

Nous n'insisterons pas sur les sialorrhées gravidiques plus ou moins constantes qui ne semblent pas voir de répercussion sur la femme enceinte.

Possède-t-on actuellement un test salivaire qui permette de reconnaître si une femme est enceinte et de déterminer à l'avance le sexe de l'enfant?

De même que les modifications de la muqueuse buccale sont, au cours de la grossesse, le reflet plus ou moins vif de celles qu'on observe au niveau de la muqueuse vaginale, de même passent dans la salive de nombreuses hormones gravidiques, comme il en est excrété dans les urines.

Le test précoce de *Richarson* est basé sur la présence d'oestrone libre dans l'urine de la femme, quelques semaines après la conception. Ce même auteur a recherché si le même test pouvait être appliqué parallèlement avec de la salive. Il n'est positif en règle que s'il s'agit d'un garçon, et valable à partir du sixième ou septième mois. A ce moment une hormone androgène passe dans la salive dans 85 à 90% des cas. Dans les deux dernières semaines de la grossesse, des modifications chimiques importantes troublent la fidélité de la réaction. D'ailleurs, en France, plusieurs obstétriciens et gynécologues consultés ne semblent pas y attacher d'intérêt.

IL ACTION DES LÉSIONS STOMATOLOGIQUES SUR LA GROSSESSE

Quelle est l'influence des extractions dentaires sur la grossesse?

Celles-ci peuvent agir de quatre façons:

- 1) en déclenchant une infection à distance,
- 2) en déclenchant une hémorragie,
- 3) en déclenchant des douleurs,
- 4) en provoquant des troubles de la mastication.

L'infection

Il ne faut pas exagérer l'importance de la bactériémie post-extraction. Mais il est bon de ne pas la négliger. Parmi les infections puerpérales susceptibles d'avoir une origine bucco-dentaire, citons surtout les localisations rénales (néphrites aiguës ou chroniques, pyélites, pyélonéphrites). Parmi les microbes, les plus redoutés sont le streptocoque et les anaérobies du type *perfringens*. Mais pensons aussi qu'une toxémie gravidique peut suivre le traumatisme d'un foyer septique avec, comme conséquence, un décollement prématuré du placenta et un avortement. Enfin, certaines anémies secondaires de la grossesse ne sont peut-être pas étrangères à de tels foyers.

L'hémorragie

Il est certain que le sol hématique de la femme enceinte est modifié. La destruction globulaire inhérente à la grossesse peut dans certains cas s'intensifier, augmentant l'hématolyse, surtout dans les cinq premiers mois. Avec la sidéropénie, on peut voir apparaître une hypogranulocytose, un allongement du temps de saignement, une augmentation du temps de coagulation. C'est seulement dans ces états que l'extraction risque d'entraîner une véritable hémorragie.

La douleur

La douleur qui souvent précède l'extraction, car elle est une des raisons qui la motivent, doit disparaître avec l'anesthésie, qui doit être parfaite, pour éviter une psychose due à une dystonie neurovégétative associée à des troubles corticaux frustes.

Édentation

Cette considération n'a de valeur que lorsque le coefficient de mastication est insuffisant. Dans ce dernier cas, une prothèse provisoire pourra y suppléer.

Quelles précautions prendre pour pratiquer des extractions chez une femme enceinte?

1. Selon la lésion

Toute dent pouvait être conservée par des méthodes médicales dans des séances ni trop longues ni trop douloureuses, doit être conservée. Toute dent causale d'un accident stomatologique doit être supprimée.

2. Selon le terrain

On évitera d'intervenir au cours d'une maladie infectieuse aiguë (pneumonie, typhoïde, variole). De même en face d'une néphrite chronique, d'une décompensation cardiaque, du diabète.

Chez les myxœdémateuses et les hypothyroïdiennes frustes, les grossesses sont également fragiles.

Le dentiste, en face d'une intervention choquante (dent de sagesse incluse par exemple), doit prendre contact avec le gynécologue accoucheur.

3. Moment favorable à l'extraction

C'est entre le quatrième et le huitième mois que les interventions sont le mieux supportées.

4. Préparation à l'intervention

Elle doit être faite:
contre l'infection,
contre les hémorragies,
contre la nervosité et l'anxiété.

5. L'anesthésie

La femme enceinte supporte très bien les anesthésiques, mais ne commencer l'intervention que lorsque l'anesthésie est parfaite.

6. L'intervention

Douceur, rapidité, précision.

7. Suites de l'intervention

Eviter les alvéolites.

En cas d'avortement survenant après une extraction, la responsabilité du spécialiste est-elle engagée?

Raynal dit que chez la gravidique qui doit être opérée "ce n'est pas tant l'acte opératoire qui est important, mais la région anatomique où elle doit être réalisée. Plus cette zone est proche de l'utérus, plus elle est susceptible de comporter des suites fâcheuses. L'intervention dentaire n'a donc aucun inconvénient sur les femmes enceintes; si cela devait déterminer un avortement, les cabinets dentaires seraient tous pleins." Sans verser dans le paradoxe, nous pouvons nous demander si une intervention stomatologique est vraiment incapable de provoquer l'avortement. Or, des cas dans la littérature nous sont connus. Les obstétriciens insistent beaucoup sur l'avortement spontané à répétition qu'ils appellent encore avortement habituel. C'est à leur propos que nous avons signalé l'importance du terrain et de troubles neuro-hormonaux. C'est chez ces femmes qu'il y a lieu surtout de prendre toutes les précautions nécessaires.

Mais pour que l'intervention puisse être retenue comme cause déclenchante éventuelle, il faut que les contractions expulsives commencent immédiatement ou dans les quarante-huit heures qui suivent.

La femme peut-elle alors demander réparation en justice?

Il semble qu'actuellement il n'existe aucune juridiction à ce propos. Pour qu'il y ait faute, il faudrait d'abord que l'intervention eût été faite sans réelle utilité.

Il faudrait aussi qu'aucune des précautions habituelles n'ait été prise. En fait, il s'agirait d'une expertise délicate et difficile à établir.

Médecine et Hygiène, 20/9/58

Académie Nationale de Chirurgie Dentaire

Commission d'étude des termes techniques dentaires

Communiqué:

La Commission d'étude des termes techniques dentaires, créée par l'Académie à la suite du rapport qui lui a été présenté par M. Max FILDERMAN, au cours de son assemblée plénière du 22 avril 1958¹, s'est donné pour tâche de mettre de l'ordre dans notre vocabulaire et de veiller à ce que le langage que nous employons, dans nos écrits comme dans notre enseignement et dans nos discussions professionnelles, soit correct et digne de notre belle langue française et de la place occupée par notre profession.

Pour atteindre ce but, elle se propose:

- 1°—de rechercher les termes, expressions ou formes couramment employés par nous et qui seraient incorrects ou défectueux et d'en proposer le remplacement ou la modification;
- 2°—de s'attacher au remplacement, dans la plus large mesure possible, des termes étrangers, de plus en plus envahissants, soit en les traduisant, soit en créant des néologismes, lorsque le besoin s'en fera sentir et, bien entendu, en procédant avec la plus grande prudence;
- 3°—de préciser le sens de certains termes usuels et de déconseiller des termes désuets;
- 4°—de donner des directives précises pour le choix des termes à employer pour décrire et interpréter les maladies et les thérapeutiques stomatologiques (par exemple, éviter de désigner les maladies par un nom propre).

Afin de prévenir tout malentendu, la Commission tient à préciser qu'elle n'entend nullement s'ériger en un Directoire prétendant imposer ses façons de voir à la profession. Tout au contraire, elle fait appel à tous les praticiens de l'Odonto-stomatologie pour qu'ils veuillent

bien s'intéresser à ses travaux et lui apporter une active collaboration.

Elle leur demande instamment:

- 1°—de lui signaler les termes, formes ou expressions qu'ils estiment devoir être bannis et remplacés;
- 2°—de lui suggérer, si possible, des termes de remplacement;
- 3°—de prendre connaissance des propositions de la Commission et de lui communiquer leurs observations, critiques, objections et, éventuellement, approbations.

Dès maintenant, la Commission soumet à l'examen de la profession les propositions suivantes:

L'expression suçage du pouce, si couramment employée, est impropre: il conviendrait de dire succion.

Fluorisation, fluorination sont à éviter: à remplacer par fluoration.

Il semble plus correct de dire: résine autopolymérisante et non autopolymérisable.

Enfin, voici deux adjectifs:

il est préférable de dire parodontique et non parodontaire

périodontique et non périodontal

Le plus large compte sera tenu de toutes observations qui pourraient être formulées au sujet de ces propositions.

La Commission se compose de:

Mme le Professeur CHAPUT

M. A. BEAUREGARDT, Directeur de l'Ecole Dentaire de Paris

M. A. BESOMBES, Professeur à l'Ecole Dentaire de Paris

M. R. IBOS, Professeur à l'Ecole Odontologique de Paris

M. P. LEGOUX, Professeur à l'Ecole de Chirurgie Dentaire et de Stomatologie de Paris

M. L. ROUCOULES, Professeur à l'Ecole Odontologique de Paris et de son Président, M. Max FILDERMAN, Professeur à l'Ecole Odontologique de Paris, à qui devra être adressée toute la correspondance (16, rue Vignon, Paris 9^e).

¹ De nos devoirs envers la langue française (Bulletin de l'Académie Nationale de Chirurgie Dentaire, no 1, pp. 49-58).

Nouvelles de l'Association

Prix de passage réduits pour le Congrès d'Halifax

En vertu du plan d'identification par certificat, l'Association canadienne des Passagers a consenti des déductions pour les billets de train pour le Congrès de l'Association dentaire canadienne qui aura lieu à Halifax, du 21 au 24 juin 1959.

Les dates autorisées pour les départs sont les suivantes:

Pour les points des lignes de l'ouest—de Fort William et Armstrong, Ont. à l'ouest—du 11 au 20 juin inclusivement.

Pour les points des lignes de l'est—de Terre-Neuve—du 11 au 20 juin inclusivement.

Les membres de l'Association dentaire canadienne et les membres de leur famille ont droit à des billets aller et retour à prix réduits, sur présentation de certificat d'identification. Les membres de l'Association canadienne des Infirmières dentaires et de l'Association des Assistantes dentaires peuvent aussi bénéficier de tarifs de faveur. On peut obtenir des certificats en s'adressant au secrétaire de l'Association dentaire canadienne, 234 rue St-Georges, Toronto.

Visites annuelles du Président

Le docteur George M. Dewis, président de l'Association dentaire canadienne, accompagné du secrétaire, le docteur Don W. Gullett, est à rendre visite aux principaux organismes dentaires de l'Ouest du Canada.

Parti de Saskatoon le 23 février, le président et le secrétaire ont assisté à des assemblées à Edmonton, Calgary, Victoria, Vancouver, Lethbridge et à Regina; ils ont terminé leur tournée à Winnipeg, le 10 mars. Ils ont rencontré les étudiants de l'Université d'Alberta et de l'Université du Manitoba.

L'Association dentaire canadienne appuie la campagne de la Société du Cancer

En avril, la Société canadienne du Cancer a tendu la main au public pour trouver les fonds nécessaires à la poursuite de sa lutte au cancer sur trois vastes fronts: recherches, éducation et services sociaux. Il fallait une somme minima de \$2,750.00. Le président de l'A.D.C. a fait une déclaration pour appuyer cette campagne et pour demander aux dentistes canadiens d'apporter leur concours à cette campagne nationale qui a pour but d'éliminer le cancer du rang des principales maladies qui assaillent la population.

Cette Société, grâce à son affiliation avec l'Institut national du Cancer du Canada, a contribué d'une façon significative par ses dons en argent aux recherches entreprises dans les universités et les institutions du

pays. Elle prélève cet argent par des campagnes de souscription menées tous les ans. Le docteur C. H. M. Williams est le représentant de l'A.D.C. à l'Institut national du Cancer.

Conseil d'Enseignement dentaire

Les doyens des six facultés dentaires canadiennes assistaient à la réunion des membres du Conseil d'Enseignement dentaire de l'A.D.C. qui eut lieu récemment à Toronto, sous la présidence du docteur James D. McLean, de l'Université Dalhousie de Halifax. Au nombre des décisions importantes prises par le Conseil à cette occasion, notons:

—L'expérience en orientation professionnelle qui sera tentée à la faculté dentaire de l'Université de Toronto par le département des recherches pédagogiques de l'Ontario College of Education.

—La prise de connaissance et la discussion des projets des autorités de la Défense civile pour des cours qui seraient donnés aux étudiants sur des questions touchant à la défense civile.

—Résolution priant l'Exécutif de l'A.D.C. de continuer à réclamer l'augmentation des disponibilités actuelles pour l'enseignement dentaire au Canada; cette résolution a été adoptée après que le Conseil eut pris connaissance des progrès réalisés pour la formation d'un plus grand nombre d'élèves et des répercussions que ce nouvel état de choses aurait sur le nombre total des dentistes.

—Etude des rapports de réunions tenues pour discuter des conditions d'admission et de la formation des techniciens dentaires.

—Approbation des nouveaux textes au sujet des internats dentaires et de cours de dentisterie destinés aux étudiantes garde-malades.

—Elaboration d'un programme pour des conférences de pédagogie dentaire sur l'anatomie buccale (1960), dentisterie opératoire (1961) et diagnostic et réhabilitation buccale (1962).

—Revision à la demande du Conseil des Gouverneurs, en 1955, des recommandations au sujet de l'anesthésie; cette nouvelle rédaction des recommandations sera soumise au Conseil des Gouverneurs à sa réunion de juin.

Edifice de la faculté dentaire de Toronto

On espère que les derniers travaux dans le nouvel immeuble de la faculté dentaire de l'Université de Toronto seront complétés vers le 1er juin 1959. Plus tard, on installera l'équipement et l'outillage nécessaires et on s'attend à ce qu'au moins les espaces destinés à l'enseignement seront prêts vers la fin de septembre ou au début d'octobre.

Congrès pan-américain à Mexico

L'Association dentaire mexicaine a reçu le Congrès dentaire pan-américain à Mexico du 18 au 23 novembre dernier. Des représentants de la profession dentaire de tous les pays des Amériques du Sud et du Nord assistaient à cette manifestation. Le docteur H. W. Hart, de la faculté dentaire de l'Université du Manitoba, représentait l'Association dentaire canadienne.

Au cours des réunions, on a fondé deux nouveaux organismes. Toutes les associations nationales des Amériques seront invitées à faire partie d'une Confédération Odontologique Pan-Américaine. De même, on a institué une Association Pan-Américaine des Facultés dentaires qui groupera toutes les facultés dentaires des Amériques.

Le docteur Roberto M. Ruff, de Mexico, a été élu président de la Confédération et le docteur A. Raymond Baralt, de San Juan, Porto Rico, président de l'Association des facultés dentaires. La mise en marche de ces organismes coïncidera avec le Congrès du Centenaire de l'Association dentaire américaine, qui aura lieu à New York, en septembre 1959.

Invitation de la Ligue de Santé

La Ligue de Santé invite les dentistes à joindre ses rangs en plus grand nombre. La Ligue souligne que si sa revue "Health" se trouvait dans la salle d'attente de tous les dentistes, la population du Canada pourrait s'instruire plus facilement des questions qui regardent l'hygiène.

La Ligue de Santé est l'organisme le plus considérable qui se préoccupe de l'éducation en hygiène; elle est bénévole et supporte toutes les mesures de prévention susceptibles d'améliorer la santé de la population. On peut citer, par exemple, l'appui que la Ligue a fourni à la cause de la fluoruration. Sa revue "Health" contient fréquemment des articles écrits par des dentistes et contribue à l'éducation du public en hygiène dentaire.

Les dentistes peuvent souligner le beau travail accompli par la Ligue et en même temps collaborer à l'éducation dentaire du public en devenant membre de la Ligue de Santé. Pour devenir membre, il en coûte deux dollars par année et cette cotisation comprend l'abonnement à la revue "Health". On s'adresse à 111 Avenue Road, Toronto, Canada.

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The Canadian Dental Association

JOURNAL

Preventive Orthodontics

T. J. HACKIE, P.Ch., D.D.S., D.D.O., Kelowna, B.C.

General practitioners are constantly in search of dependable basic preventive orthodontic instruction. Such information is provided in this paper and will be followed by two further articles from the same author. These will appear in the next two issues of the Journal. Those interested would do well to retain the complete series as reference material.

Editor.

INTRODUCTION

This manual is original only in its presentation. Its main purpose is to direct the dentist's attention to a few of the progressive types of malocclusion, and removable appliance manipulation used in their prevention and correction, at an early age.

It is generally believed that a very large percentage of cases of malocclusion in the permanent dentition, could have been prevented. The dentist in general practice, who usually sees the young

patient first, should assume the responsibility of carefully observing developing deciduous and mixed dentitions. He should be qualified to recognize abnormal development and to give correct advice regarding prevention and interception of malocclusion. This is his obligation.

An attempt has been made to approach the problem of examination for malocclusion, in an understandable and practical manner.

The illustrations are exaggerated for the purpose of clarity.

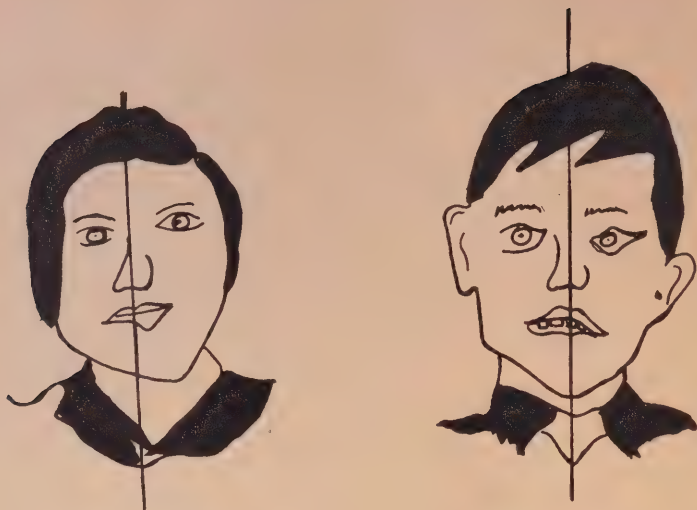


FIGURE 1
Unbalanced Face.

VISUAL EXAMINATION:—

As the child is walking towards the dental chair, mentally note:—
Front view of face:—Asymmetry — unbalanced.

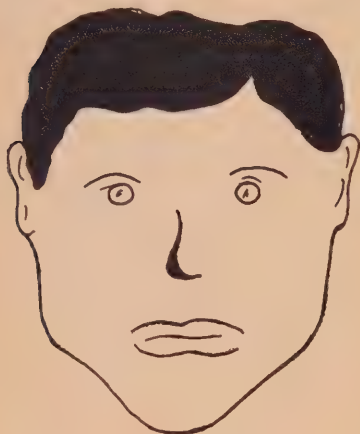


FIGURE 2
Balanced Face.

Check for possible:— (Fig. 1)

1. Posterior or Anterior crossbite.
2. Narrow Arch, protruding anteriors.
3. Narrow "Ala-Nasi", mouth breather.
4. Habits A. Tongue thrusting—atypical swallow.
B. Lip-biting.
C. Thumb-sucking.
5. Check molar relation.

In a well balanced face there is usually a well-formed arch. In your examination, stress the dental rather than growth defects.

Check for possible:—

1. Defects in eruptive pattern, Fig. 14.
2. Premolar loss or over retention of deciduous teeth.
3. Crowding—e.g. cuspid and second bicuspid or premolar.
4. Spacing, take radiograph for supernumerary or ectopic eruption, deciduous roots, unerupted or congenitally missing teeth.
5. Check molar relation.

Profile:—A receding chin—Angles Class 11.

Check:—

1. Molar relation.
2. Protruding Anteriors and narrow upper arch.
3. Under-developed nose, "ala" narrow.
4. Open bite—due to habits or atypic swallow.
5. Spaced Anteriors or laterals overlapping centrals.

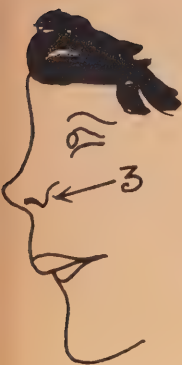


FIGURE 3
Angle Class II.

Lower Mandible forward:—Angle Class III.

Check:—(Fig. 4)

1. Molar relation.
2. Cross bite, Anterior and posterior.
3. Blocked out cuspids.
4. Missing second premolars or bicuspids.
5. This is the most disfiguring of all malocclusion. Treatment early.

Lips:—

The windows to our dentition. Have the child swallow, if there is a crimping or pursing of the lips:—

Check for:—

1. Atypic swallow—Fig. 5. Tongue thrust against or between the Anterior teeth at completion of swallow.

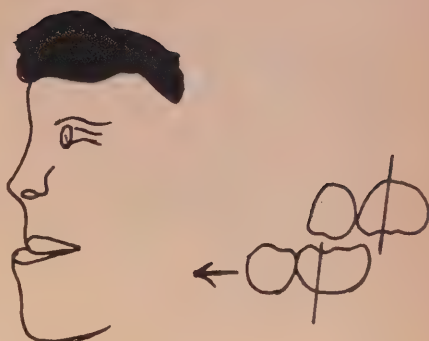


FIGURE 4
Angle Class III.

2. Protruding Anteriors.
3. Posterior and Anterior cross-bite.
4. Anterior spaced or open-bite.
5. Short upper lip, teeth protrude—check for habits.
6. Nose full and dirty, glazed look in the eyes, child dull, signs of mouth breather, habits.
7. General appearance untidy, overweight, crying easily, have check for tonsils, adenoids, nasal septum.
8. Hard board-like lips, check for crowding Anteriors.
9. Lips chaffed, tooth marks check enlarged tongue, habits, spaced Anteriors and others.
10. Check molar relation.

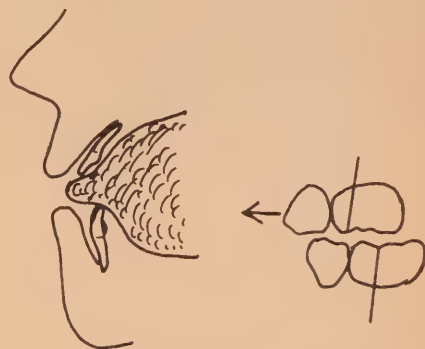


FIGURE 5
Atypic Swallow.

Posture:—

Faulty posture frequently demonstrates undesirable mandibular position. Angles Class II, receding jaw. Fig. 6.



FIGURE 6

DENTAL EXAMINATION.

1. At age five and before eruption of first permanent molar:—

Check deciduous molar relation, end to end or lower molar mesial to upper, is considered normal.

The beginning of permanent tooth eruption, whether it be five or seven years, is of little significance. The time between exfoliation of the deciduous tooth and eruption of the permanent tooth, approximately three months, is all important. A delay of six to eight months may

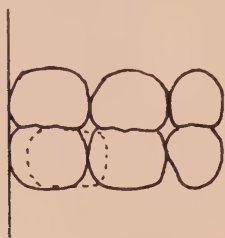


FIGURE 7

lead to malocclusion, and is usually due to crowding.

2. At age five to six years:—
 - a. A continuation of malocclusions found before age five years.
 - b. The position and presence of the second deciduous molars—Fig. 7— or lower slightly mesial to upper, is all important. The deciduous molars guide the erupting permanent molars.

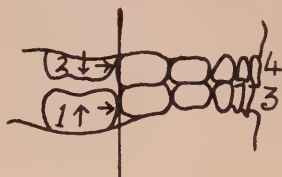


FIGURE 8
Normal Eruption.

The first permanent molars act as markers for teeth erupting Anterior or mesial to them.

This is especially true in the upper dentition.

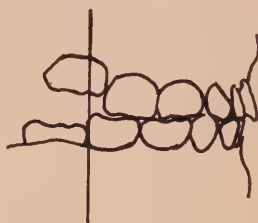


FIGURE 9
Abnormal Eruption.

Normal sequence of eruption.

1. The lower permanent molars, followed by:—
2. The upper permanent molars, three to six months later.
3. Lower central incisors.
4. Upper centrals.

Abnormal.

If the deciduous molars are in Class II relation before permanent molars erupt, the latter will erupt into Class II relation.

When this relation occurs, insert a bite plane with Adam's clasps to hold the upper permanent molars stationary.

The lower in normal growth, moves forward and will assume normal or near normal relation with the upper molars.

This is an example of preventative Orthodontics.

Abnormal or atypical eruption. Usually results in Class II.

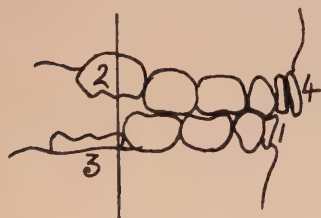


FIGURE 9a
Abnormal Eruption.

1. Lower centrals erupt first, followed by:—
2. Upper permanent molars,
3. Lower permanent molars,
4. Upper centrals.

Insert bite plane.

N.B.

When a second deciduous molar is prematurely lost, the permanent molar will erupt in a forward position. When sufficiently erupted to be engaged with a removable appliance it must be retracted to normal relation with the opposing first permanent molar.



FIGURE 10
Crowded Anteriors.

3. Age six to eight years:—Check lower Anterior crowding.

This may be due to:—

1. Lack of lateral growth, large teeth in small mandible.
2. Over retention of deciduous teeth.
3. Premature loss of centrals—age two to three years.

Fig. 11 shows position of permanent teeth as found in their crypts before eruption, gradually, with lateral growth of mandible and direction of eruption, the incisors and laterals fan out.

If lateral growth is lacking, the teeth erupt in the position they normally held in the crypts.



FIGURE 11

Crypt Positions.

FIGURE 11a



The lack of spacing between deciduous Anteriors does not necessarily mean crowding of the permanent teeth.

The direction of eruption is:—

1. Forward and downward in the upper.
2. Forward and upward in the lower Anteriors.

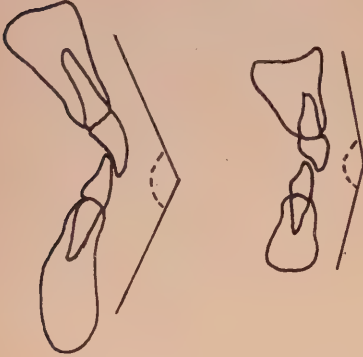


FIGURE 12
Direction of Eruption.

Upper Anterior Spacing:—Fig. 13.

Spaces between centrals may be normal after eruption. Frenotomy should be withheld until cuspid almost erupted. The permanent cuspid when erupting, may close Anterior spacing. If unsuccessful, it may be due to:—

1. Tongue thrusting habit, atypic swallow. Fig. 13.
2. Thumb-sucking, lip-biting.
3. Supernumerary, missing laterals.
4. Check molar relation.



FIGURE 13

4. Ages eleven to twelve years.

This is the most favourable eruptive pattern. Where there is deviation, most cases require treatment.

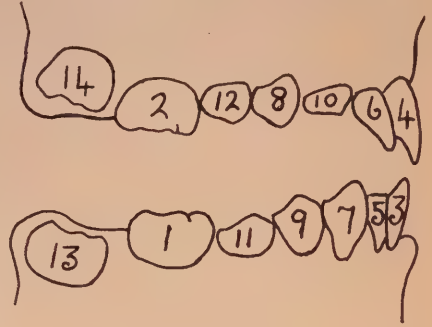


FIGURE 14
Favourable Eruptive Pattern.

This is one of the most important illustrations.

The second deciduous and first permanent molars are the most important teeth in occlusal guidance.

1. The second deciduous molars.

These guide the permanent molars during eruption and prevent them drifting forward beyond their normal limit.

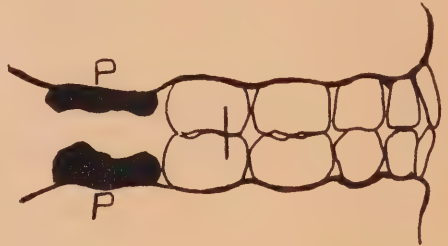


FIGURE 15
Guiding Second Deciduous Molars.

2. The first permanent molars.

When the cusps of the upper and lower are locked in proper relation; erupting teeth, mesial to them, are guided into normal occlusion.

The first permanent molars, when they erupt, are in an end to end relation. It is essential that the lower molars drift forward to obtain normal cuspid integration. Of the two molars (one side) it is important that the upper molars be held. This holding is done by the lower molar. The large lingual cusp of the upper locking into the central fossa of the lower.

When the upper and lower molars are in normal relation to each other and the Cranio-facial structure, and tooth units mesial to them present:—

1. *Crowding.* May be due to discrepancy between tooth units and bone structure.
2. *Spacing and protrusion.*
 - a. Check habits.
 - b. Supernumerary, missing laterals, second premolars, ectopic eruption.

N.B.

In cases of prematurely missing second deciduous molars, upper and lower, the permanent molars may erupt forward, but in good relation to each other.

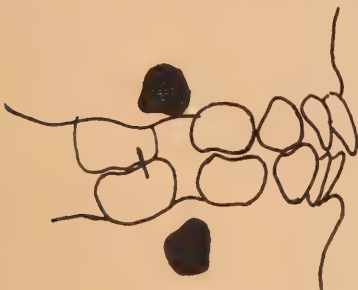
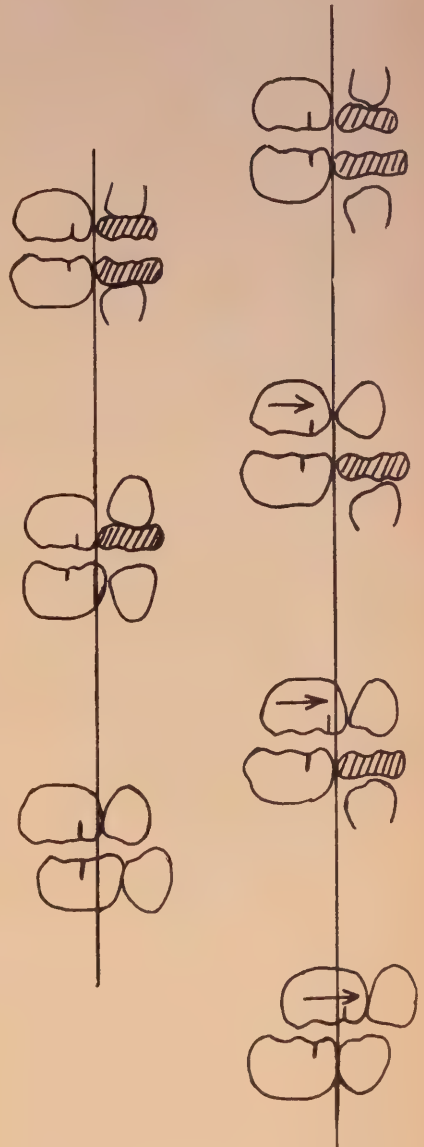


FIGURE 17

Prematurely Missing Second Deciduous Molars.

Normal Eruption. Abnormal Eruption.

FIGURE 16



When the molars erupt sufficient to engage, retract, otherwise:—

In the upper—premolars and cuspids will erupt forward to normal.

In the lower—the second premolar will be blocked out, erupting lingually.

Explanation of molar forward drift.

The Anterior permanent teeth in the upper are larger mesiodistally than the deciduous teeth which they replace. Additional space is acquired by direction of eruption. Fig. 12.

The permanent cuspid is larger mesiodistally than the deciduous cuspid. Additional space is obtained partly in the premolar or bicuspid area and partly in the direction of eruption, forward, downward and buccally. Thus by their eruption, Fig. 12, the incisors and cuspids increase the Anterior ark of the arch.

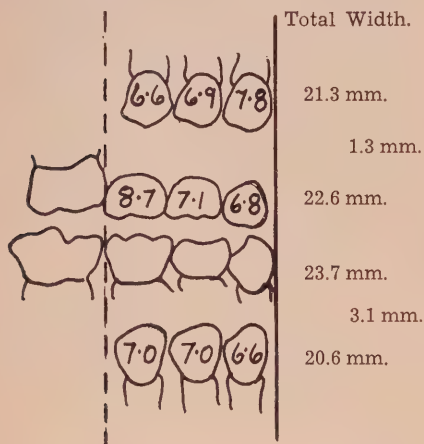


FIGURE 18
Key to Molar Drift.

The combined width of upper deciduous molars and cuspids is one decimal three mm larger than the combined width of the permanent premolars and cuspids.

The same holds true in the lower, although the difference between deciduous and permanent premolars and cuspid is three decimal one mm.

The permanent molars erupt end to end, the upper molars move forward approximately one decimal three mm, and the lower advances twice the distance, approximately three decimal one mm, to establish normal cuspal relation.

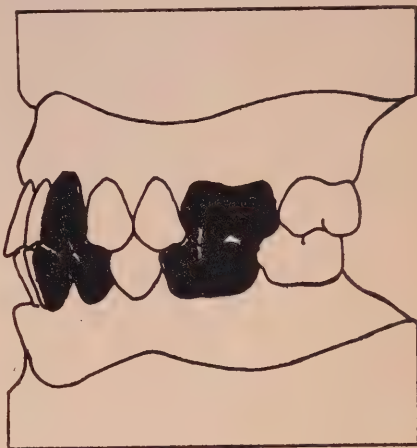


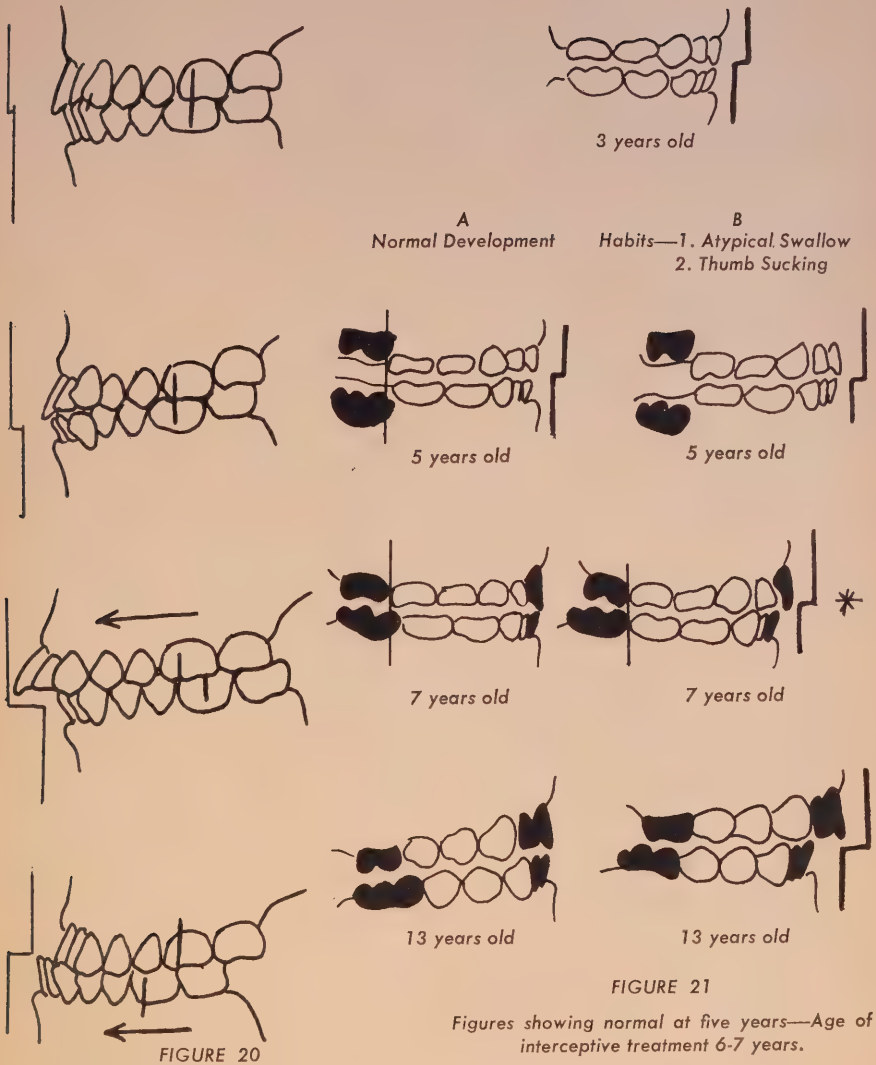
FIGURE 19
Key Teeth in Occlusal Classification.

The permanent lower Anteriors, also larger than the deciduous, gain space by the direction of eruption, Fig. 12, to contact upper Anteriors.

The three decimal one mm is the difference between the total width of deciduous molars and cuspids over the permanent teeth that replace them. Fig. 18.

The upper central occludes with the lower central and lateral. The upper lateral occludes with the lower lateral and mesial portion of the lower cuspid. This places the upper cuspid distal to the lower cuspid. The cuspid and first permanent molar are used as the key to occlusal guidance and classification.

ANGLE'S CLASSIFICATION OF
MALOCCLUSION.



The largest percentage of malocclusion on the North American continent is found in the Class II type. The upper dentition in forward relation to the lower.

*Insert flat bite plane, Adams clasps, Anterior elastics and pins.

1636 Pandosy St.

"I Didn't Know It Was Loaded!"**

WESLEY J. DUNN, D.D.S.,** Toronto, Ontario

INTRODUCTION

On February 3rd, two years ago, a news item datelined Kingston, Ontario, was transmitted to all newspapers by the Canadian Press. When it appeared in the Toronto Telegram it read as follows:

"Kingston, Feb. 3 (C.P.)—A nine-year-old Battersea boy was shot and killed last night when his younger brother Bruce played with a 50-year-old .22 calibre rifle owned by their father, police said to-day.

Eric Charles Huntback died in hospital minutes after he was rushed to Kingston by his father . . . "

Then the news item ends, quite tersely . . .

"I did not," said Mr. Huntback, "know the gun was loaded."

This story, perhaps, would be shocking were it not for the fact that similar events or modifications of them make their appearance on the pages of our daily newspapers with reasonable frequency. We shake our heads in wonderment at the carelessness of individuals who would leave dangerous firearms in such positions or conditions to effect such tragic results. We wonder why responsible adults have not taken every preventive measure possible to assure that the serious conse-

quences of the misuse of such weapons will not result.

Speaking now professionally, there are very serious consequences which may, and in fact often do, result from an inattention to those normal or expected practices which are coincident with the provision of a high standard of dental care. Failure to employ accepted methods, failure to record and maintain accurate records, failure to follow proper procedures when faced with those almost inevitable professional difficulties which sometime or other involve us all, may result in consequences almost as *professionally* serious as the terminal results in the news item to which I have made reference.

Obviously, as there is only one way by which a dentist can avoid being sued for malpractice — that is, not to practise dentistry — it is necessary that he should so conduct himself that this hazard, which may beset any one of us, is reduced to a minimum.

Most dentists, throughout their years of active practice, are never the defendants in actions brought by patients. Perhaps they have displayed, on all occasions, the required degree of skill, or perhaps the damages suffered by the patient were not serious. Or perhaps they have been very fortunate. We must, however, as professional people, recognize that in this changing world there is an

*Based on an address to the North Toronto Dental Association.

**Secretary-Treasurer, Dentists' Legal Protective Association of Ontario.

ever-increasing claims' consciousness. People are no longer disposed to suffer an unfortunate result as something inevitable. Where there has been injury, they look for compensation. Their friends are free with their advice and to compound the problem even further, a brother dentist to whom the patient has turned for assistance after injury will drop a sympathetic "It's too bad you didn't see me sooner," or "I can't agree with that procedure." And an irate patient runs off to see his lawyer.

OBLIGATIONS OF THE GENERAL PRACTITIONER

Let us consider very briefly and in essentiality the obligations the law imposes upon a dentist in general practice who takes charge of a case:

- (1) The dentist must possess and use that reasonable degree of learning and skill ordinarily possessed by dentists in the locality where he practices. The significant words in that sentence are "reasonable" and "ordinarily." The degree of learning and knowledge is the degree that might reasonably be expected from the average dentist in the district. Few persons have rare and extra endowments, but a dentist is not judged by the standards of the paragon. He need only display the skill and learning of the average dentist.
- (2) The dentist must use his best judgment—that faculty of deciding wisely. The law will not be satisfied with anything less than the use of "his best judgment" in exercising his knowledge. It does not, of course, require him to have or use the best judgment some other dentist might employ. It is not the best possible judgment, but his best judgment he must bring to bear.
- (3) He must keep abreast of the times and follow the approved methods in gen-

eral use. He must know what is transpiring in his profession, what new discoveries have been made, and what old opinions or procedures have been discarded. The dentist should take advantage of his scientific journals and attend meetings or conventions where he may obtain from and exchange information with fellow practitioners.

In these observations no mention has been made to the effect that a dentist is required to guarantee his services. Our courts have held that a dentist is not an insurer or guarantor of results! It is only required of him that he bring to his ministrations a reasonable degree of care and skill and employ the best judgment of which he is capable. Is it not then unwise for dentists to give or imply guarantees prior to the commencement of service? In their concern to convince patients of the desirability or necessity of certain treatment procedures some dentists have been guilty of over-assuring their patients and the inevitable complaints have been forthcoming when the result did not meet the preconceived speculations of the patient. Assure your patient that you will do only your best. Should that statement no be satisfactory, it would be in your interest to sever your relationship at that time rather than deal with the much greater problems which could arise, subsequently.

OBLIGATIONS OF THE SPECIALIST

A specialist is required by law to exhibit a higher degree of skill in his particular specialty and his standard of care is not referable to the locality in which he practises. There is no local standard for a specialist because he holds himself out as possessing special skills and knowledge, and it is his duty to have and apply the degree of skill possessed by the average specialist in his field. The same degree is expected of him whether he is practising in a large city or a small community.

MALPRACTICE

We are concerned, here, only with that portion of law which deals with actions for malpractice. "Malpractice" is improper treatment of a patient by a practitioner whereby the patient is injured and actions for malpractice are based on "negligence" on the part of the practitioner and consequently it is most important that we understand what is meant in law by the term "negligence." "Negligence" is the omission to do something which a reasonable man, guided upon those considerations which ordinarily regulate the conduct of human affairs, would do, or doing something which a prudent and reasonable man would not do."

Therefore in order to succeed in an action for malpractice, the plaintiff must establish, if he wishes to be successful, that:—

- (1) the relationship of dentist and patient existed,
- (2) the dentist departed from some duty he owed his patient, and
- (3) the departure from duty was the competent producing cause of the injury.

Should the patient fail in establishing any one of these requisites, except under special circumstances to which we shall now refer, he will not succeed with his action.

RES IPSA LOQUITUR

Some publicity has been given within the profession to a discussion of the rule of "*Res Ipsa Loquitur*" and a general contention has been made that this rule will apply in all future actions against dentists for malpractice. This is hardly the case.

Literally the doctrine of "*Res ipsa loquitur*" means "the thing speaks for itself." It is essentially a rule of common sense — a particular application of the broad general principle that our Courts, like individuals, usually recognize and

give effect to the balance of probabilities in any case.

While it seems that British, Canadian, and American legal journals are carrying an increasing number of reports of cases in which the doctrine of "*res ipsa loquitur*" has been applied, the rule is not a new one. It has been an established part of the law of evidence for over one hundred years. It is not directed particularly at dentists, but it applies, for example, equally in actions against medical practitioners. In motor vehicle accident cases, it has been converted into a statutory rule of universal application that whenever a pedestrian is injured through the operation of a motor vehicle on a highway, the onus is on the driver to explain, if he can, how the accident could have happened without negligence on his part.

The rule does not apply in every case of alleged malpractice, but only where, in the opinion of the presiding judge, the balance of probabilities justifies its introduction. If a patient can, by his evidence in a malpractice action against a dentist, satisfy the judge that the thing which caused him damage was under the management of the dentist and that the accident is one which does not happen in the ordinary course of events if the person in charge uses proper care, the judge will, no doubt, rule that "*res ipsa loquitur*" applies, and will call upon the dentist to try to show how the accident could have happened without want of care on his part. If the dentist does not put forward such explanation or if the explanation given by him and his witnesses is not considered by the judge to be satisfactory, the patient will succeed.

By way of illustration in the case before the Supreme Court of Canada which involved a dentist in which the rule was held applicable, the plaintiff had produced medical evidence that the patient who had died while under anaesthetic in the dentist's chair, had died from asphyxia caused by a sponge in the trachea. The Court ruled that, in these circumstances, "*res ipsa loquitur*," that is the

facts proven were self-evident of negligence and the Court was entitled to assume, without further evidence, that the dentist who was in charge of the sponges was guilty of a lack of ordinary care and prudence in overlooking the fact that a sponge in the patient's trachea might be the cause of his ceasing to breathe.

It is worthy to note that no flood of malpractice actions followed the 1951 publication of this decision.

Counsel for plaintiff-patients will, no doubt, seek to have Courts apply the *res ipsa loquitur* rule in many malpractice cases arising out of dental accidents, but whether the attempt will be successful will depend, in each case, on the interpretation of the facts which the patient is able to prove. The possibility however, cannot be overlooked that the *res ipsa loquitur* rule may sometimes be applied in dental malpractice claims where it is really not properly applicable, merely because the facts which the patient is able to prove may carry to a mind unschooled in dental experience, an unfounded inference that certain things do not, in the ordinary course of events, happen without negligence. It must be remembered, however, that application of the rule only shifts to the defendant the onus of adducing evidence, and once all the facts are before the Court, the Court weighs the balance of probabilities on all the evidence.

General experience in technical cases indicates that in the absence of conflicting professional opinion, Courts almost invariably accept a reasonable explanation put forward by a professional man as justifying a questioned mode of treatment or as exculpating the practitioner from responsibility for the results of an accidental occurrence. There is nothing in recent experience to indicate a departure from this course of conduct.

A reasonable person can assess a situation for himself by simply asking himself if it were another dentist who were involved, "Would I expect the other dentist to give an explanation and, in the ab-

sence of an explanation, would I conclude that the responsibility for the unfortunate result were his?"

AN ACTION IS INSTITUTED

Let us now suppose that, however repugnant this may be to you, you are confronted with an action for malpractice. What should you do? How should you conduct yourself? To whom should you confide?

You have already had the ulcer-producing experience of being served with a writ which has been issued by the patient-plaintiff's lawyer. You have been informed that when all expenses have been assessed, a statement of claim will be served on you. Reading between the lines of the writ you sense that you are being accused of such gross negligence and that the plaintiff is suffering such excruciating discomfort, the claim will not be notable through its modesty.

Being a red-blooded Canadian boy or girl your first reaction is to spring to your own defense with rather impassioned protestations of your innocence of the charges. Probably that is the worst procedure you could follow. I know of no instance, in this area of concern, where the fact that a dentist said nothing at the time of accusation, has ever been held against him or jeopardized his defence in any way. The same, however, cannot be said for the opposite procedure.

In Ontario, one who is a member in good standing of the Royal College of Dental Surgeons of Ontario, is automatically a member of the Dentists' Legal Protective Association of Ontario. You should, therefore, avail yourself of the free legal advice and legal aid which are your right to enjoy. You should make a copy of the writ you have received and forward it with your statement in respect to your services, which are the subject of the action, to the Secretary of the latter organization. Substantiating records in the form of charts, models, or radio-

graphs, are desirable. Also a statement from your office assistant, if it is pertinent to the type of action being proceeded with, is helpful. Should you possess an office liability policy — and it is to be hoped you do — you should contact your insurer, inform him of the writ served on you, and indicate to him that you are transmitting all the pertinent information to the Protective Association. The Association also should be informed of your Insurer and his name supplied if possible. Now you are ready for the most difficult part of all — doing nothing!

There is an almost overwhelming urge, should you feel that the claim sought is for an inconsequential sum to attempt to have the matter settled as quickly and quietly as possible, irrespective of whether or not there was any supposed negligence on your part. Subdue the urge. Minor settlements are the sparks which create burning precedents which eventually may consume us all in the legal conflagration. Let those trained in the legal niceties decide whether a settlement is desirable and if it is, a settlement may be arranged between lawyers with the least possible damage to you and to the profession. The Association holds to the view that everyone is innocent until he is proven guilty and virtually every action, unless it is of such a grossly obvious nature that it is completely indefensible, is vigorously resisted. The knowledge that the Association is prepared to offer such resistance has been the factor which has caused the vast majority of these actions to be discontinued. In this context let us not be governed by expediency but rather let us be cognizant of all the possible ramifications of our actions.

RECORDS

Experience over the years has shown that where the dentist has adequately fulfilled his responsibility to his patient, he can be successfully defended. The im-

portance, however, of maintaining complete and detailed records cannot be over-emphasized. Several months ago we received a statement from a dentist in reply to an allegation from a patient that the dentist had fractured her mandible during the extraction of a tooth. The following, with all identifying details deleted, is a direct quotation from this dentist's statement:—

"On (date) I extracted, under local anaesthetic, the lower right third molar for a Mrs. ———. I cannot remember the details of the operation. It may have been a difficult extraction as I charged \$5.00 instead of my usual fee of \$4.00 although there may have been another reason such as an evening emergency or possibly the use of extras, such as analgesias as well as the local anaesthetic. I cannot recall having a post-operative visit, although it is possible there was one, and it was not entered on the record. Mrs. ———'s name does not appear in my appointment book at all."

That, is a direct quotation and not fabricated to prove a point. Think if you will of the possible effect of such "professional!" testimony upon a judge when he begins to consider the balance of probabilities. This is not an isolated instance by any means and I would respectfully ask you to consider if your records are adequate should you be faced with a similar allegation.

STATUTE OF LIMITATION

Actions for malpractice in this province must be brought against a dentist within a period of six months from the date when, in the matter complained of, professional services terminated. For example if the act of alleged malpractice occurred in January but the dentist continued to treat until April, the period of limitation does not commence until April. The limitation clause has been a successful defence to many instituted actions.

CRITICISM OF THE SERVICES OF OTHERS

No suit for malpractice can proceed unless a dentist or physician will testify for the plaintiff against the dentist who is being sued. It is a sobering thought that the majority of malpractice suits are brought because of criticism by a dentist of the treatment of one of his colleagues. This should emphasize, once again, the need for reticence in passing judgment on another practitioner.

Edward Samson, probably the most prolific and able writer of any dentist in the world, commented, in his own inimitable fashion, in the *British Dental Journal* on this subject:

"Dentists," he said, "unlike fruit, do tend to become more sour the longer they are kept. There was a time when dentists were professional colleagues in all that is implied in that term, not competitors. Nor was this one of those ideals like peace on earth or UNO, represented by lip service, and far too much of that. The majority found great satisfaction in being called professional gentlemen, a title not registrable, but much harder to earn than most. To criticize another's work adversely, either directly or by implication, is but a poor attempt to gain a reputation, usually of no lasting value. Nor are methods more subtle less ungracious. That raised eyebrow at the sight of the other fellow's denture, that pained expression when examining his fillings, and oh so sympathetic face when the patient tells her vivid story of her extracted tooth, no detail of laceration or all-in wrestling spared—none of these, lends one cubit to the actor's stature. Personally I am at once suspicious of any patient who complains long and bitterly of previous treatment. And, quietly, between ourselves, I have seen cervical margins of my own fillings on X-ray films that have given me a nasty jolt. I might be even more mortified if I knew how many dentures are now being remade by colleagues

whose technique (of prosthesis or charm) is far superior to mine."

Mr. Samson makes his point well. There is no single problem in the broad area of professional ethics which causes more distress than this propensity of so many dentists to deprecate the services of their confreres.

Should one feel sufficiently incensed at someone's obvious maltreatment one has direct recourse to his licensing board to whom he can testify. If one does not feel strongly enough to pursue that procedure then perhaps he should consider, very carefully, the advisability of making any derogatory comments or gestures to the patient. As an editorial in *Oral Health* stated several months ago, "let the profession administer its spankings in its own woodshed."

LIABILITY INSURANCE

The R.C.D.S. Board conducted a survey on the extent to which Ontario dentists avail themselves of liability insurance. One thousand five hundred and fifty one dentists returned completed questionnaires. Forty were considered not applicable because of one reason or another. Of the one thousand five hundred and eleven pertinent replies, eight hundred and seventeen dentists indicated they possessed liability policies. This number represents fifty-four decimal one percent of those who replied. Six hundred and ninety-four or forty-five decimal nine percent replied that they did not. While one hundred and fourteen dentists indicated they were not interested in participating in a group plan even if it were found feasible and advantageous, an overwhelming one thousand three hundred and ninety-seven gave evidence they were interested. This is a healthy sign. At the time of writing over nine hundred Ontario dentists are participating in the Group Liability Insurance Plan of the Royal College of Dental Surgeons. It would be well, how-

ever, to view even a broader approach to this liability problem.

A NATIONAL PROTECTIVE ASSOCIATION

It has been a source of personal concern for some time that seven of our ten Canadian provinces do not share the benefits of a Protective Organization. This is not only hazardous to our confreres in these provinces, but also to us who may be judged by persuasive precedents established by adverse decisions in these provinces.

While it is not proposed to enunciate a detailed statement of the function of the Canadian Medical Protective Association, it is sufficient to say that any one of the more than 10,000 member physicians who may be sufficiently unfortunate to have an action for malpractice brought against him is provided with legal aid. Also should any adverse judgment be rendered by the court, the Protective Association pays the assessment. Though the annual dues are only twenty dollars, the Association has developed a sizeable reserve and also as an association, holds calamity insurance with Lloyd's of London should more than a specified sum be required to be drawn from the Association's funds in any one year. There is an area here which would bear further investigation by our profession.

COMMON AREAS OF DIFFICULTY

A review of the last ten years' litigation both initiated only, and proceeded with to court action has revealed the ten most common areas of difficulty — broken needles, fractured jaws, post-extraction complications, root fragments, accidents with discs or stones, anaesthetic complications, injury to teeth as a result of operative procedures, counterclaims in respect to dentures alleged to be unsatisfactory, services performed for minors

without parental permission, and actions for assault arising from alleged too strenuous disciplinary measures taken by dentists. Any one of these actions, under appropriate circumstances, could result in financial loss and professional embarrassment for a dentist unfortunate enough to be involved.

RULES TO HELP PREVENT MALPRACTICE SUITS

The annual reports of the Dentists' Legal Protective Association have, for years, carried ten simple rules to help prevent malpractice suits. It does no harm to reiterate them here:

1. Avoid arguments with patients who complain of grievances real or fancied.
2. Keep complete and accurate records.
3. Refrain from guaranteeing or even promising perfect results.
4. Follow approved methods of practice.
5. Be as careful in your post-operative treatment as in the main operation.
6. When faced with an extraordinary situation, do not mark time, delay, or otherwise avoid the issue. Face it squarely and, if in doubt, call in another dentist for consultation, preferably a specialist in the particular type of treatment.
7. Never conceal any important fact from your patient, even when you may fancy the patient will never discover the error or poor result.
8. When confronted by a serious question of law pertaining to the practice of dentistry you should seek the advice of the Dentists' Legal Protective Association before making any statement, either written or oral.
9. Do not criticize another practitioner's services.

10. Use diligent care in the handling of caustic medicaments, instruments, burs, and discs.

CONCLUSION

The practice of dentistry because of its essential surgical character is replete with potentialities for malpractice suits.

It is hoped sincerely that at least all who have managed to read this far will develop or better still retain a rather healthy respect for the possible consequences of legal actions. Metaphorically speaking, perhaps no reader will ever have cause to say, "I didn't know it was loaded."

230 St. George Street.

Bilateral Dens En Dente (Dilated Composite Odontomes)

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This type of development anomaly has been reported to be one of the rarest. The occurrence of it in bilateral form has been recorded by few other observers.

In 1855—the Transactions of the Pathological Society of London carried what is now claimed to be the original article by Salter of the first Dens en Dente.

Rushton was among the first to accurately describe this unusual type of dental development anomaly.

This epithelial invagination which may

originate in either the crown or the root of a tooth has been "tagged" with various names beginning with Salter's "wart tooth" Bush in 1897 suggested the name Dens en Dente, Rushton supported by Hunter suggested the name of Dilated Composite Odontome, while Oehlers prefers the more descriptive term of Dens Invaginatus.

Oehlers in his papers on the subject divides the various types of invaginations into three groups:

- 1st—Which is enamel lined and confined within the crown

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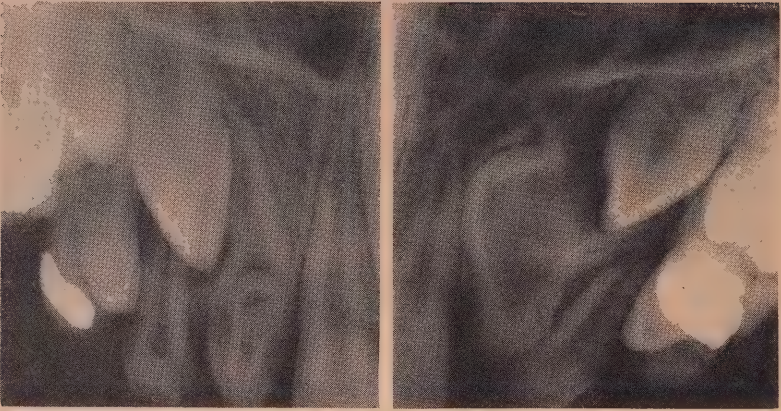


FIGURE 1 — CASE 1

Illustrates bilateral dens en dente located in maxillary lateral region.

- 2nd—Which invades the root structure but remains in a blind sac
- 3rd—Invading and penetrating the root structure.

FIGURE 2 — CASE 1

Clinical appearance of extracted right dens en dente.



The name Dens en Dente meaning a tooth within a tooth, is one which was first suggested in 1897 by Busch, who believed that this phenomenon resulted because one tooth surrounded another by



FIGURE 3 — CASE 1

Clinical appearance of occlusal coronal extracted right dens en dente—note opening through crown.



FIGURE 4 — CASE 1
X-Ray of removed right dens en dente.



FIGURE 5 — CASE 1
Photomicroscopic section of right dens en dente
—note that the enamel of both teeth is clearly
illustrated.

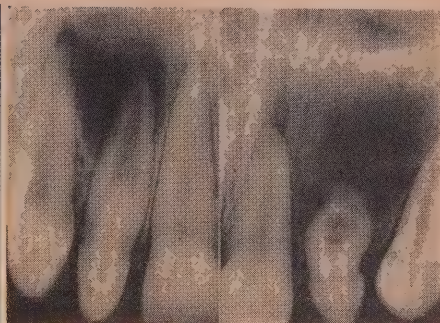


FIGURE 6 — CASE 2

Illustrates bilateral dens en dents located in maxillary lateral region—note that both of these dens en dente have large areas of rarefying oestitis about their apices.

the process of growing around it. This supposes that two tooth germs are involved, a concept that is no longer accepted by most investigators.

Today the theory which enjoys the majority opinion is that the structure of this particular condition is an invagination of a single enamel organ. There is, however, still some controversy as to the *modus operandi* of the invagination process in the enamel organ. Rushton believed that it is a rapid and abnormal growth of cells of the deep surface of the enamel organ resulting in invagination of the dentine papilla. This growth process "presses the incompletely calcified dentine walls and papilla outwards so they are thinned and the deeper part of the bony crypt becomes enlarged. The part already calcified cannot be expanded, so in cases where the pressure is great the tooth becomes rapidly wider from the cusp rootward. The central pressure must force the crown in a superficial direction and may help to cause its conical shape."

Two cases of bilateral Dens en Dente are presented and illustrated. Both cases are teenage females.

170 St. George St.

Pathologic Amelogenesis*

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The pathologic phenomena that disturb amelogenesis and that result in anomalies of the enamel can be classified in several groups:

A. DISTURBANCES OF THE ENAMEL FORMATION.

I. Disturbances of quantitative character.

1. Arrest in the matrix formation resulting in enamel hypoplasias (ev. aplasia) of local, systemic or hereditary origin.
2. Excessive formation resulting in supernumerary cusps, enamelomas, enamel in odontomas.

II. Disturbances of the enamel formation of qualitative character, resulting in anomalies of structure.

B. DISTURBANCES OF THE MATURATION OF THE ENAMEL RESULTING IN ENAMEL HYPOCALCIFICATIONS OF LOCAL, SYSTEMIC OR HEREDITARY ORIGIN.

A hypocalcification may result from:

1. Arrest of the maturation
2. Formation of zones of the enamel matrix which are unable to undergo maturation¹⁴.

This article deals mainly with the disturbances of the enamel formation of a

qualitative character, resulting in anomalies of structure.

The enamel which does not have the usual rod structure is called ameloid tissue^{5,6} or enameloid tissue. Enameloid tissue can be observed mainly in enamelomas, in odontomas, in various anomalies of tooth development and occasionally in clinically normal teeth as microscopic anomalies, in the bottom of fissures etc.

Enameloid tissue consists either of enameloid globules (globular structure) or of enameloid lamellae (lamellar structure).

The development of the enameloid tissue can be systematically studied by microscopic examinations of enamelomas in various stages of development. This article is based on observations from hundreds of cases. The enamelomas can be most often found between the roots of molars. In the teeth extracted from young persons, many epithelial cells are still active.

The cells, which were originally part of the internal layer of the epithelial sheath of Hertwig, deposit their products upon the surface of the dentin. The cells of the external layer separate more or less from the tooth surface in strands or in rounded cell nests and deposit their products in the periodontal space.

FORMATION OF THE ENAMELOID GLOBULES¹⁵.

In the cytoplasm of the epithelial cells, round droplets appear which expand the cells. (Figs. 1, 2.) The cytoplasm becomes

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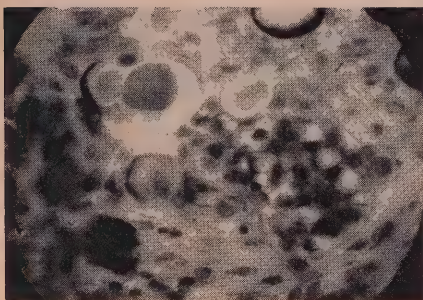


FIGURE 1

Periodontal membrane in a molar root bifurcation. Inclusions in the epithelial cells. Enameloid globules. (90-6)

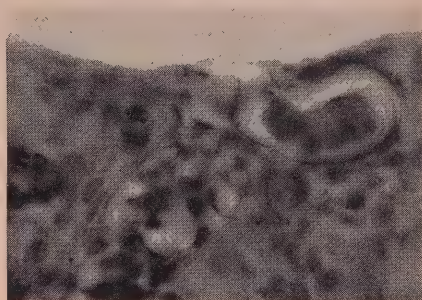


FIGURE 2

Small and larger inclusions and globules. Larger formation with striation. The white area is a dissolved large enameloma. (90-6)

reduced and finally the cells have a ring-like appearance with the nucleus forming a bulge on the periphery. The inclusions increase in size and a fine concentric striation becomes apparent. They have the same staining characteristics as the enamel matrix.

The original cell membrane remains on the surface of the globules as a cuticle. On the larger and older globules this cuticle is usually all that is left of the original epithelial cell. The cells are never found within the globules. Where a nucleus appears to be within a globule, it can be shown by focusing the microscope in various depths, that it is actually on the surface of the globule.

The globule is actually analogous to the enamel prism. It is formed by an undifferentiated epithelial cell instead of a regular ameloblast.

Quite often small globules fuse to form larger irregular formations. (Figs. 3, 4.) In large formations, it may be difficult to distinguish the original individual globules. On the surface of these enameloid formations a cuticle may be found, composed either from the residues of the formative cells or from the adjacent epithelial cells which have not participated in the formation of the globules. Some of these inactive cells may be seen between the globules.

The globules accumulated in large num-

FIGURE 3

Enameloid globules in various stages of formation and maturation, fusing together. Above, an enameloma, partly dissolved. (45-6)

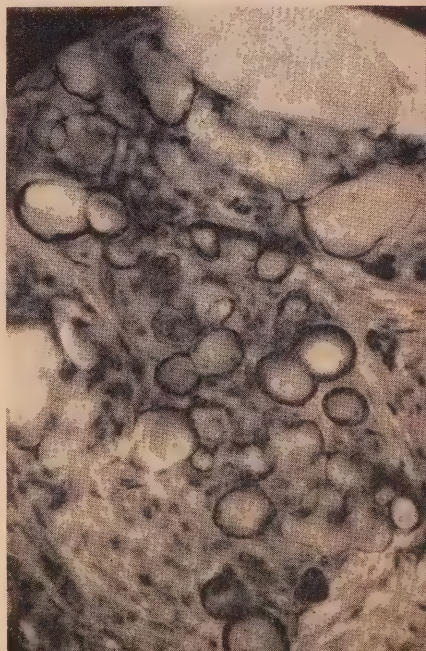




FIGURE 4

Superficial enameloma consisting of enameloid tissue with globular structure. Partly covered with cementum. Bifurcation of a molar. (25-6)

ber and fused together in a solid mass constitute enameloid tissue with a globular structure.

The globules may be fused to the surface of the prismatic enamel (Figs. 3, 5, 6) or with enameloid lamellae (Fig. 11).

FORMATION OF THE ENAMELOID LAMELLAE.

The enameloid lamellae are formed either directly on the surface of the den-



FIGURE 5

Enameloid globules fused to the surface of a superficial enameloma which consists of prismatic enamel. (45-6)



FIGURE 6

Included enameloma in the root bifurcation of a molar. Core of dentin. The main part, left, is prismatic enamel, right, a transition to globular enameloid tissue. (45-6)

tin or on the surface of the enamelomas the core of which consists of prismatic enamel. Close to the surface where the formation starts epithelial cells are seen which do not have the character of ameloblasts but are oval or flat. In these cells, small inclusions appear which have the same staining characteristics as those de-

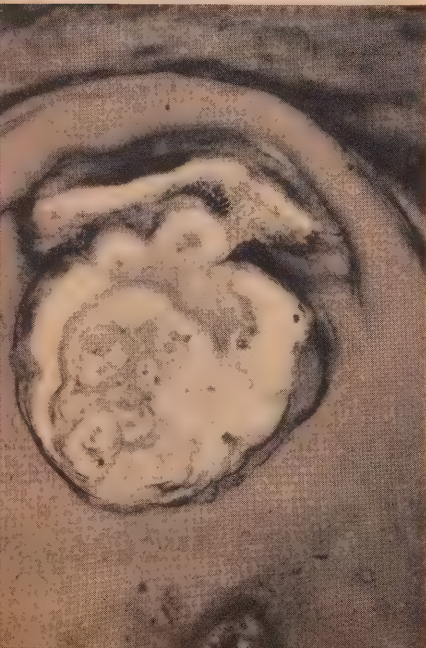


FIGURE 7

Included enameloma in the root bifurcation of a molar consists of enameloid tissue mainly with globular structure, few enameloid lamellae on the periphery. (25-6)



FIGURE 8

Two free enamelomas in the root bifurcation of a molar, consist mainly of enameloid globules. Ground section. The calcified material shows higher translucency than that of the rest of the periodontal membrane. (25-6)

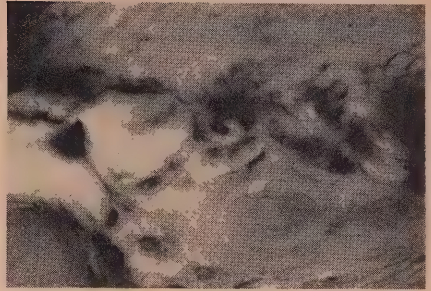


FIGURE 9

Above, prismatic enamel of an enameloma in the bifurcation of a molar. Epithelial cells, inclusions of irregular and flat form. (90-6)

scribed previously. First, they are rounded and when their volume is larger, they are irregular and more or less flat. (Figs. 9, 10.) The cuticle disappears in some places and the inclusions fuse to form a thin layer of material adhering to its base.

The cell residues and inactive epithelial cells usually remain on the surface of the material, but some may be included between the layers when further material is deposited in the same way. (Fig. 11.) Sometimes there is a little organic ma-



FIGURE 10

Bifurcation of a molar. Right, part of an enameloma. Center, flat layer of enameloid tissue deposited on dentin. Epithelial cells with inclusions. (90-6)



FIGURE 11

Prismatic enamel of an enameloma in the bifurcation of a molar (above). Enameloid tissue of lamellar structure fused to its surface. Some enameloid globules. Epithelial cells with inclusions. (45-6)

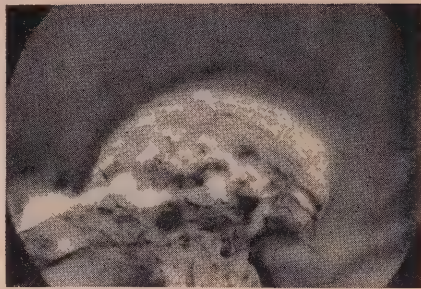


FIGURE 12

An enameloma consisting of enameloid tissue with lamellar structure, in the stage of enamel matrix. On its surface, mass of irregular structure and cementum. (45-6)

terial in fine lines perpendicular to the surface, resembling enamel lamellae seen in normal enamel. (Fig. 14.)

The final result is a mass consisting of thin layers roughly parallel with the base, separated by fine, continuous, cuticle-like lines. This is the enameloid tissue of lamellar structure. (Figs. 12, 14.)

The enameloid lamellae often fuse with the enameloid globules and fill the spaces between them to form a solid mass with a very irregular structure. (Fig. 13.)

In young stages, the enameloid tissue, globules and lamellae, have the character

of the enamel matrix. They have similar staining characteristics and are opaque in ground sections seen in transmitted light.

The enameloid tissue may undergo maturation just as the enamel does. (Fig. 3.) Then the globules and lamellae dissolve on decalcification and on decalcified and stained sections they are clear, with some residues of the organic material left. (Figs. 7, 13.) On ground sections they are translucent. (Figs. 8, 14.) Finally, in older persons, the epithelial cells disappear and there is just the calcified tissue.

Sometimes, the enameloid tissue or



FIGURE 13

An enameloma consisting mainly of enameloid tissue with lamellar structure. On its surface is a mass of irregular tissue. (45-6)

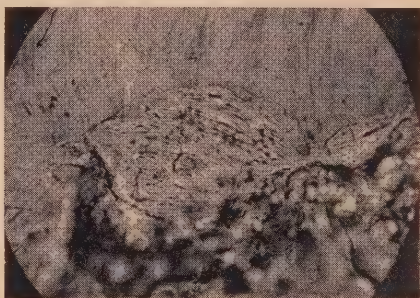


FIGURE 14

Ground section of an enameloma consisting of enameloid tissue with lamellar structure. Above, dentin of the bifurcation, below, rest of periodontal membrane. (45-6)

some areas of it does not undergo maturation, and then they remain in the stage of the enamel matrix. (Fig. 12.) Later, the epithelial cells disappear and there is just enameloid tissue which is not fully calcified, does not dissolve by decalcification and presents the staining characteristics of the enamel matrix. Often, even the assumed protective function of the epithelium seems to be insufficient and the enameloid formations are covered by cementum. In older persons there may be more cementum on their surface than enameloid material inside.

The deposits of enamel and enameloid tissue in the root area are called enamelomas (enamel drops, enamel pearls).

The superficial enamelomas (Figs. 4, 5, 12, 13, 14.) on the surface are either simple or with a core of dentin or even with a pulp. They consist mainly of enamel and sometimes there is enameloid tissue on their periphery. The simple enameloma may consist entirely of enameloid tissue. (Fig. 4.)

The included enamelomas (Figs. 6, 7.), embedded in the dentin or partly in cementum, may be simple or they may have a core of dentin or even a pulp. They may consist of regular prismatic enamel but they consist more often of enameloid tissue of lamellar structure.

*The free enamelomas*¹⁵ (Fig. 8.) lay in the periodontal space, originally without contact with tooth surface, and consist of enameloid tissue.

The enamelomas and enameloid tissue should not be confused with other formations which may be similar in appearance but are different in origin: The cementicles consist of cementum having a fibrillar structure which can be best demonstrated on sections stained by silver-impregnation methods, while enameloid tissue contains no fibers and has the character of the enamel or enamel matrix, when examined by various methods¹⁵. However, some free enamelomas are later covered with so much cementum that their differentiation from cementicles is difficult and of theoretical interest only.

The phenomena seen in the histogenesis

of enameloid tissue can be considered as a formative activity of the epithelial cells. Sometimes, seemingly somewhat similar phenomena can be seen which might be considered degenerative. There are also phenomena resulting in depositions of a material which seems to have a character of the interprismatic substance. These processes should be distinguished from the formation of enameloid tissue and will be dealt with in another study.

DISCUSSION

To explain the histogenesis of enameloid tissue we must have a clear concept of normal amelogenesis. Some textbooks describe the early stages of tooth development in a prejudicial and somewhat misleading way, such as: "The growing epithelium encloses the mesodermal tissue, transforms the enamel organ from a cap-shaped structure into a bell-shaped one, determines the form and size of the crown and root . . ." while we could just as well say: The dental papilla grows into the epithelial organ, stretches it, transforms it and determines the form of the tooth. The fact is that both the dental epithelium and the dental papilla grow.

The epithelial and the mesodermal constituents of the tooth germ develop simultaneously and grow together. Each exerts an environmental influence on the other.

The life span of the cells of the inner dental epithelium can be divided into five²² or six¹⁷ stages and in each stage the cells seem to exert a specific function: 1. morphogenetic, 2. organizing, 3. formative, 4. maturation, 5. protective, 6. desmolytic.

The influence of the mesodermal tissue on the epithelium has not been satisfactorily defined^{19,4}. To reach a complete concept of the mutual relations of both constituents of the tooth germ, we can specify at least five stages and functions of the mesodermal tissue of the dental papilla: 1. morphogenetic, 2. organizing, 3. formative, 4. formation-inducing, 5. maturation, (6. nutritive, defensive, sensory function of the adult pulp.)

1. In the morphogenetic stage of de-

velopment the growth of the dental papilla and dental epithelium determine the form and size of the crown. This is the expression of the morphogenetic function of the papilla together with the morphogenetic function of the epithelium.

2. In the organizing stage the inner dental epithelium exerts an organizing function upon the adjacent mesodermal tissue which causes it to differentiate into the pulp tissue. The mesodermal tissue of the papilla exerts an organizing function upon the dental epithelium which induces its further differentiation, mainly the differentiation of ameloblasts and stratum intermedium.

3. The pulp first one enters its formative stage and its formative function manifests itself in the formation of predentin.

4. In the next stage, the pulp exerts a formation-inducing function upon the ameloblasts which induces them to enter their formative stage and to form the enamel matrix and prisms. This inducing effect is in relation with the nutritive environmental differences caused by the appearance of the first layers of predentin and dentin.

The ameloblasts then continue and finish their formative function, enter their maturation stage, then their protective and desmolytic stage.

5. The maturation stage of the mesodermal tissues is characterized by the change of predentin into dentin and its full calcification. This process overlaps the preceding stages and the nutritive and defensive functions of the adult pulp.

The harmonious correlation between the functions of the epithelial and mesodermal constituents of the tooth germ normally manifests itself only in the early stages of development up to the completion of the crown. In the normal development, the organizing and formation-inducing functions of the pulp, the organizing, formative, maturation functions of the epithelium cannot be demonstrated in the root area. The epithelium of the Hertwig's sheath in the root area reaches only a stage with a limited morphogene-

tic function. It protects the growing pulp against coalescence with the adjacent mesodermal tissue and so it contributes to the formation of an uninterrupted layer of dentin with a smooth surface¹³. Normally, it does not differentiate further.

Various experiments and observations have shown that either the epithelial or the mesodermal constituent may have a certain independence in exerting some of their functions^{9,10,11,13,18}.

The pathogenesis of most anomalies of tooth development can be explained by various disturbances of the functions of the parts of the tooth germ.^{12,16}

1. Either a certain function does not manifest itself, which leads for example to hypoplasias or hypocalcifications of the enamel.

2. or a certain function seems to be exerted in a pathologic way, for example pathologic organizing function of the epithelium leading to opalescent dentin, pathologic formative function of the pulp leading to dentinogenesis imperfecta.

3. or a certain function manifests itself in an area where it is not normal.

In an early stage of root development, a group of cells at the rim of the tooth germ may regain all the functions described above, beginning with the morphogenetic stage. This leads to a formation of an enameloma with a core of dentin and a little pulp chamber. The proliferating cells of the internal layer of the epithelial sheath may either evaginate, giving origin to a superficial enameloma, or they may invaginate into the papilla where their products later become embedded in the dentin as for example an included enameloma.

In most cases, there is not much evidence of an ectopic morphogenetic and organizing function and there is just a simple enameloma on the root surface or in the dentin, without pulp or dentin core.

In an area adjacent to the external layer of the epithelial sheath all the functions of an early stage of the tooth germ may reappear and lead to a formation of a supernumerary tooth.

In other cases, some cells of the exter-

nal layer of the epithelial sheath may regain only the formative function and form a free enameloma in the periodontal space. There is no mutual morphogenetic nor organizing influence, no pulp tissue nor dentin, no ameloblasts, no prisms, just enameloid tissue.

The enamel with prisms forms under differentiated ameloblasts and stratum intermedium and on a base of dentin, i.e. in the presence of the organizing and formation-inducing function of the pulp.

The enameloid tissue formed by poorly differentiated cells on the surface of dentin or enamel seems to indicate that the epithelial cells have not been affected by the organizing influence of the pulp. The underlying hard tissue may have acted as a formation-inducing influence leading to their formative stage.

The enameloid tissue formed without contact with dentin by lowly differentiated epithelial cells can be explained by the absence of the organizing and formation-inducing function of the pulp and an independent, pathologic appearance of an epithelial formative function.

Sometimes in an ameloblastic odontoma we can see large areas where well developed ameloblasts adhere to the surface of dentin but there is no enamel. This shows that there was the mutual organizing influence, the ameloblasts and pulp differentiated, the pulp formed dentin, but did not exert its formation-inducing function without which the ameloblasts did not enter the formative stage and did not form enamel. In other areas there are well differentiated ameloblasts and stratum intermedium, odontoblasts, but no enamel, no dentin. This shows that the tissues reached only the organizing stage and that there was no further inducing influence.

The concept distinguishing different functions of cells will help to interpret many phenomena observed in tooth anomalies, experimentation, tooth germ transplantations, tissue cultures, etc. The division of the environmental influences into several stages and functions is of course artificial and not rigid. There is

some overlapping and there are some exceptions.

SUMMARY

The histogenesis of enameloid tissue is described. The enameloid tissue is composed either of enameloid globules or of enameloid lamellae. It is formed by epithelial cells derived from the dental epithelium which do not achieve the differentiation of the ameloblasts.

The mutual environmental influences of the epithelial and mesodermal constituents of the tooth germ are studied and the organizing and formation-inducing functions of the papilla are distinguished.

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ABSTRACTS

A Look Around the Corner — What is Ahead in Hospital Care

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Dentistry will play an increasingly important role in hospitals and in the care of the chronically ill and bedfast patients. It is anticipated that a sizable portion of the dentist's income will come from some type of group payment arrangement with the dentist using much more auxiliary personnel than in the past. Considerable research is needed on the application of dentistry in hospitals, the development of new equipment, the training of dental students in hospitals and the organization of dental practice, in addition to basic research in dental health problems.

The difficulties of predicting the course of scientific events were demonstrated recently in a survey made among the senior staff of the Public Health Service in which these experienced scientists were queried on the breakthroughs they would predict in medicine, health and related fields. The respondents included physicians, pathologists, biologists, chemists, administrators, and representatives of the other professional disciplines connected with the life sciences. In reply to the question, "What are the most likely breakthroughs in research and program content in your particular field?" a common response was, "During my profes-

sional career—that last 25 years—could not have predicted a single breakthrough which has taken place in the special field in which I work."

Perhaps very few people could have predicted 25 years ago that dental caries would be prevented in millions of young Americans by the simple process of adding a few pounds of fluoride to community water supplies, or that the antibiotics would influence so considerably the whole practice of curative medicine.

Life expectancy has increased by 20 years since 1900. This increased life span for more people has brought a tremendous increase in the older segment of the population. If present mortality rates continue, the number of people 65 years and older will increase from the current 14 million to 20 million in the next 15 years. However, it seems likely that the number of older people will far exceed even this extraordinary estimate because the application of already known and newly developed therapeutic measures will continue to extend life expectancy. Obviously, a much larger population with more elderly people means new and additional needs for hospital services in the future.

HOSPITAL SERVICE IN THE FUTURE

The character of the changing health picture in this country also has significant implications for the kinds of hospital service which will need to be provided in the future. The common infectious diseases of childhood and young adult life, although still present, no longer constitute a major national health problem. Emerging today are the chronic and degenerative diseases, sensory disorders and disabilities resulting from accidents. Elderly patients with heart disease, hemiplegics, mentally retarded children, the emotionally disturbed, children with severe cerebral palsy and muscular dystrophy, person disabled for long periods as a result of accidents—these patients will occupy many of the hospital beds of tomorrow.

The hospital of the future is going to be considerably affected by the rising costs of hospital care. In view of the changing character of the problems requiring health supervisions, longer and longer periods of increasingly expensive professional care are needed. The time is rapidly approaching when the hospital may have to undergo some basic functional changes.

EXPANDED DENTAL SERVICES

Without question, the dentist of this future day will be an integral part of the hospital or health system. There will be an interdependence between the dentist and the hospital which does not exist at present. The dentist will have freedom to use all of its facilities, and will be accepted in the restorative or rehabilitative sections of the surgery unit. He will admit and discharge his own patients in the system, and his close association with the other members of the health family will give him insight into the whole person. In turn, the dentist will give these

other members an understanding of oral health problems which will make teamwork in the health field a reality.

The close association of the great family of medical and related services in the health centre should condition the community resident to think of these sites as the place to go for health needs. A physical association of all the members of the health family, with interchange of ideas and concepts, sharing of some basic resources and facilities—a multidisciplinary group practice, if you will—with community support and understanding, will lead to a whole new concept of health service. The general medical practitioners, the dentist, members of the specialty groups such as the obstetrician and the orthodontist can share the same radiation device, the same accounting service, yes even the same parking lot and the same supply rooms.

The dentist will be using his professional time judiciously and effectively, delegating as many functions as possible to well-trained, adequately supervised auxiliary personnel, who will, themselves, have learned their roles in the environment of or adjacent to the dental school.

If the dentist is to become an integral part of the hospital system of tomorrow, it is clear that the role of the dental services in the hospital of today must be investigated, including such fairly obvious studies as the evaluation of the potential of routine examination on hospital admission and the effect of dental treatment on various kinds of systemic conditions, as well as on health itself. If this basic relationship is not documented more fully, the dentist may not be invited to play his proper role in the hospital of tomorrow.

Hopefully the hospital environment also may provide the touchstone to real progress in the use of auxiliary dental personnel to perform certain patient services. In the hospital where extensive use of all kinds of sub-professional workers is accepted practice and strongly encouraged, we may have, at last, the proper environment for research and experimentation in the extended use of

auxiliary dental personnel. Little progress has been made to date in using para-dental associates, and the hospital setting may be the place to move ahead in this very productive area of investigation.

I predict that we will have to increase the pace of experimentation in the provision of dental service in the hospital environment, or the opportunity to par-

ticipate in the health service of the future may be denied to us. We can shape the character of the hospital service of tomorrow if we use imagination in our efforts to solve the problems we face today, and have a sympathetic attitude toward and understanding of new approaches to old problems.

Journal of Oral Surgery, Anaesthesia and Hospital Dental Service, Vol. 17—No. 3—May 1959.

Incidence of Fractured Anterior Teeth as Related to Their Protrusion

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There is a greater incidence of fracture in thirteen-year olds than in eight-year olds and it seems reasonable to assume that this difference results from a longer period of exposure to accident.

Three hundred forty-three white children were examined in a public school of San Jose, California, between the ages of eight and thirteen years. In each child the degree of protrusion of anterior teeth (if any) was noted, as well as the presence or absence of fractures in anterior teeth;

if fractured anterior teeth were found, the severity was noted. Fractures were designated as mild if only the enamel of the tooth was involved, all other fractures were recorded as severe. Statistical analysis of the data by means of the Chi Square test suggests that there is a real relationship between the incidence of fractured anterior teeth and the protrusion of those teeth, a relationship which should not be ascribed to chance alone.

The Angle Orthodontist
April 1959.

Memorandum on the Erosion of Teeth

CLINICAL ASPECTS OF EROSION

General Description

The erosion of teeth results in the progressive loss of tooth structure over a varying period of time. The enamel covering the crown is gradually lost, passing from a roughly etched stage to a smooth polished surface. There is no pitting of the surface. The dentine, in time, becomes exposed and rapidly stained, increasing the existing disfigurement. The colour and degree of staining depends on the chemicals to which there is exposure and on the habits (for example, smoking) of the individual.

The condition is usually painless as the pulp recedes during the erosion. However, when the process is rapid, pulp death may be followed by abscess formation. There is no evidence that eroded teeth are more susceptible to caries than are teeth unaffected by erosion.

The damage usually begins in the incisal third of the crown and gradually extends. Persons having more prominent teeth and the more talkative workers suffer most since their teeth are more frequently exposed. It may be assumed that habitual mouth-breathers are also more susceptible. However, there is no suggestion that the person with normal

occlusion and habits will escape damage.

CALCIFICATION AND AGE

No evidence is available to show that degree of calcification is related to the severity of damage suffered. No particular dentulous age group appears to be less affected than any other.

TIME FACTOR

Some workers report pulp involvement in three to four weeks whereas others, reporting on different irritants, say that lesions appear within six months.

DIFFERENTIAL DIAGNOSIS AND CAUSE

The pattern of erosion arising from airborne fumes, mists or particles seems to be fairly characteristic in so far as that in most cases the labial aspects of the incisors are attacked first.

This condition is unlikely to be confused with caries though primary decalcification of some surfaces may cause doubts, but when considered in relation to other teeth differentiation should be possible.

A condition described as "idiopathic

erosion" may also occur generally. In these cases dish-like areas of tooth destruction occur at the cervical margins of the teeth.

The reports of regurgitation of acid from the stomach are few, but it is evident that the posterior teeth are first to be attacked. Furthermore the lingual aspect of the teeth is first affected.

Where the loss of tooth structure is caused by acid solution Lovestedt (1951) states that:

- (a) The teeth may be hypersensitive to thermal changes and hygroscopic substances. This may be the major complaint and is often the patient's primary reason for seeking the services of a dentist.
- (b) Often stain and stain lines are absent which gives the dentist the impression that thorough dental prophylaxis has recently been performed.
- (c) Defects in enamel produced by action of acid solutions usually have rounded margins, whereas defects produced as a result of mechanical wear only, have sharper margins.
- (d) A finding which is probably of greatest diagnostic value is the presence of fillings which project above the surface of the tooth.

Descriptions of erosion, whether it arises from a domestic or from an industrial factor, are very similar. Questioning regarding habits such as taking pure lemon juice, raw citrus fruits, and certain cordials to excess should reveal the cause. The taking of hydrochloric acid therapeutically has been reported to cause erosion and should be considered when enquiries are made. The fact that these cases will be isolated facilitates the diagnosis.

DENTAL EROSION IN INDUSTRY

Lesions of non-carious origin may be formed in the hard tissues of human teeth as a result of the corrosive action of any one of a number of chemical substances. Those substances which bring about chemical decalcification are, almost without exception, acids.

Broadly speaking, the organic hydroxy acids appear to be more effective agents of erosion than the inorganic acids (Steel 1955). This difference in the ability to dissolve enamel is due to the fact that calcium ions have a strong tendency to form partially dissociated complexes in solution with the anions of carboxylic acids. Moreover, it has been demonstrated that neutral citrates are capable of forming soluble complexes with calcium ions (McClure and Ruzicka, 1946).

The method of handling the product, the type, the concentration, the temperature of the acid involved, and the provision or lack of adequate ventilation all affect the minimum exposure period, but it would be reasonable to assume that, where an environmental hazard exists, the first signs of erosion appear within from one to six months.

It is noteworthy that where an environment has produced known cases of dental erosion, then all workers exposed to the hazard exhibit the condition to a greater or lesser degree.

CONCLUSIONS

It is the opinion of the British Association that dental erosion from certain industrial processes is a hazard which exists and that in the majority of cases the damage to the teeth is severe and frequently results in disfigurement. Although preventive measures may be evolved the elimination of contact with the hazard is the only certain method of avoiding damage.

EDITORIAL

Saskatchewan's Bill 90 Sunders Dentistry

"There is hardly anything in the world that some man cannot make a little worse and sell a little cheaper and the people who consider price only are this man's lawful prey."

John Ruskin

If you practise dentistry in Saskatchewan in 1959, thanks to private Bill No. 90 you may be sharing your professional responsibilities with anyone who considers your profession fascinating, rewarding, or in any way attractive.

Your eager new friends seem to consider themselves above the dental profession in many respects for they apparently need neither special education nor training. If to these nebulous qualifications one adds that these persons are responsible to no one or to no authoritative body and that they do not require to qualify for licencing, the picture of these new people becomes fairly complete except for a name. Now a "name" under such spurious conditions where everything is self-created, doesn't really matter as long as it sounds impressive, so they have proceeded from the sublime and fashioned the term "denturist." But wait—what of all denturists—that is, all seventy-five (as stated by their representative) of the known ones existing in Canada? Surely for them there should be a more lofty expression of significance. And so from nothing the product has multiplied and

before our very eyes we have the national association of public denturists.

The dental profession has served the public wisely and well for many years and in deference to its respected service it would be imprudent not to acknowledge, at least superficially, an old and dedicated health profession. After all, dentists may still be useful. Therefore the Saskatchewan Provincial Legislators have seen fit in Bill 90 to insist that the zeal of the denturists to serve mankind be restrained until a certificate of oral health is provided for each case by either a dentist in good standing or a qualified physician. Once equipped with this document the denturists can legally perform.

No doubt the denturists were as amazed by the new legislation as the dental profession was dazed. To the denturists the whole field of prosthetic dentistry was now opened. To the dental profession the drastic amendments passed in the Saskatchewan Dental Act (Bill 90*) during the dying hours of the legislative session meant that all phases of prosthetic dentistry (and this is not just the restricted field considered by some) could be per-

formed for patients by unqualified self-appointed patient treaters with little likelihood of successful legal prosecution. A Dental Act that was opened in the public's interest was closed in political haste or strategy. Any unqualified person not subject to the supervision and control of a government body or any regulatory statute or by-law, but armed with a certificate of oral health, whatever that may be, is now permitted to render prosthetic treatment. The new Dental Act does not define prosthetic dentistry and in failing to do so by omission has restricted the practice of dentistry to essentially the removal of teeth and the insertion of fillings.

But what of the patient who following surgery requires tissue replacement and reconstruction in order to be completely rehabilitated? What of the knowledge of common oral sites of neoplastic lesions known perhaps better to dentists than to any? What of the knowledge of the mandibular joint and its propensity for disfunction when not duly understood? What of soft tissue reactions to various chemicals, of muscle tolerance, of speech defects, and the psychological problems encountered by patients requiring prosthetic treatment? Yes, and what of the growth and development problems associated with prosthetic appliances for child patients? These are but a few of the questions that could be raised and the answers are known to and understood by only the dental profession.

The orthodox dental technicians who have long been a strong and appreciated right hand to the dental profession, rose to a man to proclaim their approval of the Saskatchewan Dental Act as introduced by the profession and, prior to its shortsighted changes.

Some of dentistry's most distinguished contributors are engaged in specialties seemingly far removed from prosthetic dentistry in its narrowest definition. But these practitioners by virtue of their intelligence can readily foresee the perils of portioning dentistry and passing out pieces to curiosity seekers (even though

for such specialists the specific pieces may not hold any particular appeal). The great strides taken by the dental profession in the field of prevention, treatment, and research could never have been made if everyone had been free to carry away integral parts.

A situation such as this existed in Germany until 1952 when the German government eliminated the entire problem by permitting the practice of dentistry only to qualified university graduates.

The above words of the British author and critic, John Ruskin, are as true today as they were in the 19th Century. No matter where you practise and no matter what your specific sphere of interest in dentistry may be, the enactment of unwise legislation such as this Bill 90, could fetter your services and expose the public to untutored and hazardous treatment. Surely this hasty precedent will be repented at leisure by the Saskatchewan legislators and the public whom they are dedicated to serve. Undoubtedly the full result of their action was not realized. Fortunately for the Saskatchewan public the new Dental Act did not exclude dentists from the field of prosthetic dentistry.

Frank discussion with your own provincial legislators can do much to prevent the repetition of this error in other provinces. Realistic co-operation with your recognized technicians who see the problem in its true light will also discourage the spreading of this serious error in legislative judgment.

It is within the realm of probability that auxiliary personnel trained and supervised will some day work in even closer co-operation with the dental profession. In the meantime, perforce, in the public interest each dentist should regard his profession as a highly integrated entity with each part dependent upon and reflecting the integrity of the other.

*The pertinent details of the amendments to the Saskatchewan Dental Act are published in this issue under the section The Association.

THE ASSOCIATION

Saskatchewan Fractionates Dental Practice

Bill 90, an Act respecting the dental profession of Saskatchewan, was passed at the recent session of the Legislature of that province.

This draft Act as presented to the Legislative Assembly was carefully prepared to meet the current needs of the public and of the profession in Saskatchewan.

Hearings before the Law Amendments Committee were held on March 24th and 25th last at which time the Saskatchewan Dental Technicians Association strongly supported the dental profession. Several so-called denturists opposed the legislation.

The Law Amendments Committee made report to the Legislature suggesting that the Bill be hoisted for one year and considered with the draft Bill to be submitted by the Saskatchewan Dental Technicians. It was referred back from the Legislature to Committee for report. It was disclosed that the Committee wished to delete the words "altering or repairing" from the definition section. Representatives of the profession appeared again before the Committee and as a last resort agreed to such deletion. Without further recourse to representatives of the profession, the Committee and the Legislature made drastic amendments and passed the Act as it now stands.

The following are the pertinent sections as they affect the practice of dentistry in Saskatchewan:

Section 2, sub-section (5) now reads as follows:

the diagnosis or treatment of, and the prescribing, treating or operating for the prevention, alleviation or correction of, any disease, pain, deficiency, deformity, defect, lesion, disorder or physical condition of, in or from any human tooth, jaw or closely associated structure or tissue or any injury thereto; and include also the extraction of any human tooth or any portion thereof.

Sub-sections (b) and (c) were wholly deleted. They read, prior to deletion, as follows:

(b) the making, producing, reproducing, constructing, fitting, furnishing, supplying, altering or repairing, or prescribing or advising the use of, any prosthetic denture, bridge, appliance or thing for any of the purposes mentioned in clause (a) or to replace, improve or supplement any human tooth, or to prevent, alleviate, correct or improve any condition in the human oral cavity, or to be used in, upon or in connection with any

human tooth, jaw or closely associated structure or tissue, or in the treatment of any condition thereof; and (c) the taking or making, or the giving of advice or assistance or the providing of facilities for the taking or making, of any impression, bite, cast or design preparatory to, or for the purpose of, or with a view to, the making, producing, reproducing, constructing, fitting, furnishing, supplying, altering or repairing of any such prosthetic denture, bridge, appliance or thing.

This is a seeming attempt on the part of the Legislature to confine the practice of dentistry to simply the filling and extraction of teeth.

Section 50 now reads as follows:

(c) for hire, gain or hope of reward makes, produces, reproduces, constructs, fits, furnishes or supplies, any prosthetic denture, bridge, appliance or thing to replace, improve or supplement any human tooth, without first obtaining from a legally qualified medical practitioner or member of the college in good standing, a certificate of the oral health of the mouth of the person for whom the work is to be undertaken or to whom the denture, bridge, appliance or thing is to be furnished or supplied.

The pertinent change here is that the whole field of prosthetic dentistry is thrown open in the Province of Saskatchewan to anyone—fortunately they did not exclude dentists from engaging in this field of endeavour. This means that anyone, barber, plumber, delivery man or drug store pharmacist, so long as he has a certificate of oral health, may engage in any activity embraced in the field of prosthetic dentistry.

Sections 51 and 52 of the Bill relating to the prescription clause were wholly deleted and one or two other minor amendments of little consequence were made.

No rational explanation is known for the action taken by the Members of the Legislature. In our opinion the interests of the public in Saskatchewan have been done a great disservice.

President-Elect Resigns with Great Regret

Early in April Dr. W. J. Langmaid, President-elect of the Association, was suddenly afflicted with serious illness. After thoughtful consideration, he has found it necessary to resign his position as President-elect. He expresses great regret in taking this action.

Dr. Langmaid served on the Board of Governors for several years and on the Executive for two years previous to his election

at the 1958 Annual Meeting as President-elect. At the end of April he had left hospital and been permitted to go home but his activities will be curbed for a considerable period. Sincere wishes for his speedy and complete recovery have gone forward from the Association.

His enthusiasm for the dental profession, his ability to pursue every good objective to its end and his sincere conscientiousness to work for the good of dentistry constitute a distinct loss for the Association. The following excerpt from his letter of resignation represents his feelings:

It is with the deepest regret that I ask you to present to the Board of Governors of the Canadian Dental Association, my resignation as a member of The Board, also of the Executive Committee and the office of President-elect.

The future of my health is so uncertain that it would be completely unfair to the Association for me to consider continuing in office.

I shall never forget the friendships made during the past years, of the men who give so freely and generously of their time for the good of our profession.

N.B. Legislature Rejects Private Bill

In a vote which cut across party lines, the New Brunswick Legislature has rejected a request to allow Joseph L. Alfred Savoie to practice dentistry.

A private bill was introduced requesting that Mr. Savoie be exempted from certain provisions of the Dental Act and be permitted to practice dentistry. The applicant graduated from the University of Geneva, which is not recognized by the Canadian Dental Association or the New Brunswick Dental Society. Mr. Savoie had been offered the opportunity to complete his qualification at Dalhousie University. The New Brunswick Dental Society opposed the bill on the grounds that Mr. Savoie was not properly qualified.

The bill was reported out of private sessions by the Corporations Committee favouring the requested exemptions from the Act. When the bill came to the floor of the House, it was rejected on a vote which cut across party lines. A similar private bill for the same man was rejected by the legislature last year.

\$10,000 Research Prize Offered

To stimulate interest in research work of significance, related to Venezuela, in the fields of the natural, physical and social sciences, the Creole Foundation has established a prize for the best work on Venezuela in any branch of the above mentioned sciences.

The Creole Foundation Prize will consist

of \$10,000 cash and a diploma and will be given every two years in Caracas, beginning October 17, 1960. Works may be submitted until December 31 of the year immediately preceding a prize year.

Because of the international character of the prize, persons of any nationality, regardless of country of residence, may compete. Regulations may be obtained from the Embassy of Venezuela, The Roxborough, Ottawa, Ontario.

Report on Research

—quoted from Newsletter of the Division of Dental Research, Faculty of Dentistry, University of Toronto

Isotopes at Work

The use of radioactive isotopes in research laboratories is one of the most important advances in the peaceful use of atomic energy. Radioactive tracers are particularly adaptable to studies of bone and teeth. On the other hand, teeth with their remarkable stability and lack of 'turnover' are valuable tools in investigations of basic problems relating to radiation fallout and metabolism of hard tissues.

Members of the Division of Dental Research, in co-operation with staff from the Hospital for Sick Children, are now using tracers for studying the metabolism of dental and supporting tissues in health and disease. The research laboratories in the new dentistry building will include a well equipped radioactive isotope unit.

Stannous Fluoride Study

Recent clinical studies conducted primarily at the University of Indiana and the Department of National Health and Welfare, Ottawa, suggest that topical application of stannous fluoride is superior to sodium fluoride in the prevention of dental caries. The Division of Dental Research, in co-operation with the Division of Dental Services, Toronto Department of Public Health, is planning a two-year clinical study to determine the efficacy of a single application of 8 per cent stannous fluoride in reducing the incidence of dental caries in preschool children in the Riverdale Preschool Dental Project.

The time-consuming procedure for topical administration of sodium fluoride, which involves four separate visits by the patient, makes this investigation desirable. If single applications of stannous fluoride should demonstrate equivalent or greater caries preventive effect than four applications of sodium fluoride, the use of this new agent may prove valuable in preventive procedures in private dental practice.

BOOK REVIEWS

Oral Diagnosis: Prepared by: Donald A. Kerr,
Major M. Ash, Jr., and H. Dean Millard.
Published by: The C. V. Mosby Co.
Pages: 419. Price: \$10.00

This is an excellent text, whose main object is to present the principles and techniques of diagnosis. As the authors point out in the preface most texts on oral diagnosis are made up largely of descriptions of specific diseases and therapies. This has been avoided in this book, to concentrate instead upon the mechanics of obtaining a history, performing a physical examination and arriving at a diagnosis.

In the introductory chapter the authors adequately defend the desirability of a systematic and complete history taking. Chapter two is entitled "Signs and Symptoms" and is directed toward the common signs and symptoms which are manifestations of general systemic disease, i.e., pain, weakness, shortness of breath, circulatory disturbances, indigestion, jaundice, polyurea, oligurea, edema, alteration in weight, anaemia and lymphadenopathy. These entities are discussed in the light of their most common causes and their relationship to dental procedures.

The technique of taking a complete history is the subject matter in the third chapter followed by chapters on general clinical examination, oral clinical examination, radiographic examination, supplementary examination aids and finally diagnosis and treatment planning. At the end of each chapter is a short list of up-to-date references, if additional reading is desired.

Throughout the book it is apparent that the authors feel that a diagnostician should be trained with a thorough knowledge of the normal and a basic understanding of disease in general, rather than be taught elaborate descriptions of disease in terms of physical signs. To this end the authors have gone to great detail to explain the normal anatomic and physiologic details with which every dentist should be familiar. Then they follow this with the findings in disease.

This reviewer found the book interesting reading. It is particularly to be recommended to undergraduate and graduate dental students. However, nearly all dental practitioners could improve their examination and diagnostic procedures, as well as their basic knowledge of oral anatomy and physiology by reading this well-written text.

John E. Speck.

Dental Biographical Sketches. Prepared by:
A. Porter Sweet, D.D.S.
Published by: The Naportan Co., Pittsford,
N.Y.
Pages: 33 Price: \$2.00 postpaid.

We have waited a long time for someone to compile biographical sketches of the individuals who had a vision of dentistry as a broad health giving service and who gave of their leisure, their play and their sleep, to change what was, in their time, a craft, held in low esteem by the public.

These were earnest dedicated men who worked alone. They were without the aid of the helpful facilities that are at our disposal today. They succeeded and because "they worked while others slept," we have today, as a monument to them, a profession that is steadfastly striving to prevent and overcome dental diseases.

It is a small book, well prepared, well presented and readable. Read it and re-read it, learn more about Pierre Fauchard, (1678-1761), Green Vardiman Black, C. Edmund Kells, Edward C. Kirk, Solymon Brown, etc., etc.

Great men, but you will be astonished at their human traits, such as—He loved to fish, or—Because of his father's discipline he left home at 14 years of age, never came back, or—He was born, lived and died in the same farm house.

There is a copy in the C.D.A. library.

Harry Thomson.

Holy Tooth. Prepared by: Edward Samson,
F.D.S., R.C.S., F.C.S.
Published by: John Wright & Sons Ltd.,
England.

Pages: 125—24 illustrations

Price: \$2.50 approx.

Holy Tooth is the story of the most cherished and revered human relic in existence today. For over 2000 years, Buddhists have worshipped at its shrine, bloody wars have been fought over it, political chicanery has surrounded it, and never has its glory or significance dimmed.

Purported to be Buddha's upper left canine tooth, this sacred relic is now enshrined at Kandy, Ceylon. Its long history is clearly reported in some ages, surrounded in mystery in others. Mr. Samson's book is a gathering

together of facts and fiction, not always distinguishing between the two; it is a discussion of the philosophical, scientific and religious concepts of miracles and relics; it is an historical account of events related to the Tooth; and perhaps most of all it is a labour of love.

The material is well organized and presented, accompanied by excellent illustrations. The writing style, however, is not smooth and effortless, and constitutes a considerable drawback. In such a highly competitive field where so many well written books on topics just as interesting, are available, Mr. Samson's book falls short.

One might think the topic to be of special interest to dentists. This does not follow, however, and the fact that the relic is a tooth makes it neither more nor less interesting.

J. E. C. McGowan.

Handbook of Dental Practice. Edited by: Louis I. Grossman, D.D.S.—24 contributors. Published by: J. B. Lippincott Co. Pages: 534 Price: \$14.00

The third edition of this book is a compilation of the contributions of twenty-four outstanding dental teachers and clinicians covering every phase of dental practice.

Basically it is divided into two parts; part one deals with diagnosis and treatment in all the branches of dentistry, and part two covers all the present day techniques in the various aspects of operative dentistry.

This book is well written and illustrated, easy to follow and an excellent source of reference for the general practitioner. Its practical and clinical application should appeal to every dentist who is interested in rendering a better service to his patients.

J. Kreutzer.

THE LIBRARY

ADDITIONS

ANAIAS DA FACULDADE DE FARMACIA E ODONTOLOGIA DA UNIVERSIDADE DE SAO PAULO. XV Volume 1957-1958—Brasil. 164 p. illus.

BISHTON, R. L.: General pathology and bacteriology for dental students. Bristol, John Wright & Sons Ltd. 1958. 317 p. illus. \$7.15.

De CUYPER, H. V.: Les implants sous-périostés. (Revue Belge de Stomatologie, Vol. 55, No. 4, 1958.) Pages 223-339, illus.

FANNING, R. J.: Your child's teeth; a pattern for lifelong dental health. New York, Vantage Press, 1958. 79 p. illus. \$3.50.

GRESHAM, H.: A manual of orthodontics. Christchurch, N.Z., N. M. Peryer Limited, 1957. 196 p. illus. \$8.00.

HALLERT, B.: The basic geometric principles of X-ray photogrammetry. Transactions of the Royal Institute of Technology, Stockholm, No. 123, 1958, 55 p. fig.

ROSS PEDIATRIC RESEARCH CONFERENCE. Immunity and resistance to infection in early infancy. Report of the twenty-ninth Ross Pediatric Research Conference. Columbus, Ohio, M. & R. Dietetic Laboratories, Inc. 1959. 95 p. fig.

WORLD HEALTH ORGANIZATION. Technical Report Series No. 163. Expert Committee on Auxiliary Dental Personnel. Geneva. 1959. 32 p.

YEARBOOK OF DENTISTRY, 1958-1959.

THE PROVINCES

ALBERTA

Edmonton and District Dental Society

Dr. Rowland D. Haryett was elected president of the Edmonton and District Dental Society at the annual meeting on May 5th. Other members elected were Dr. B. M. McKenzie, vice-president; Dr. G. Clarke, secretary; Dr. G. T. Lindskoog, treasurer; Dr. A. V. Calhoun, social convener; Dr. A. A. Olsen, public relations, and Dr. J. S. Little and Dr. W. A. Johnstone, Fort Saskatchewan, directors. Dr. Haryett succeeded Dr. W. Ross Stuart.

The dentists re-affirmed their support of the "adjustment of the fluoride content of the city water supply to one part per million for the reduction of tooth decay." A resolution said that during the last two years further convincing evidence has been uncovered showing the beneficial and safe effects of this public health measure.

The resolution declared: "The dental society believes the responsibility for positive action rests with the public.

"It may be emphasized that this is not a case of adding something new to our water, but merely the changing of the amount of fluoride to protect the teeth of our children, and future generations."

In reviewing highlights of the past year, retiring president, Dr. Stuart noted that the two scholarships for first and third year dental students have been increased to \$100 from \$50; the inauguration of the "Class 50" perpetuating scholarship, and the establishment of the elected office of public relations.

He regretted the loss during the year of life members. Dr. W. P. Calhoun, Dr. H. A. Gilchrist, Dr. G. Hope, and Dr. Nelson Haynes.

Dr. Stuart also noted that a dental assistant's course has been started this year at the University of Alberta under the society's auspices. Members of the society are lecturers.

The retiring president was presented with a plaque by Dr. A. Lane.

Dr. R. A. McCormack, who is retiring after 32 years service as an Edmonton school dentist, was also given a plaque.

It was announced that a portrait of Dr. R. A. Rooney has been commissioned to Jack Taylor, an Edmonton painter. Dr. Rooney has been secretary of the Alberta Dental Association for over 25 years, and was a dental professor at the University of Alberta. His portrait will be hung in the dental department at the university.

During the current year the Edmonton and District Dental Society held seventeen meetings. One extra meeting was called in January for the exclusive discussion of the Post Payment Plan. Dr. Drexel Boyd, of the University of Indiana, presented a paper on "High Speed" at one meeting, and Dr. Carl Boucher of Ohio State University spoke on "Prosthetic Dentistry" at another. Colonel I. A. L. Millar of the R.C.D.C. was another guest speaker and his topic was "Treatment Selection of Service Personnel."

On February 25th we were favoured with the annual visit of the president and secretary of the Canadian Dental Association.

In April the local Prosthetic Study Group presented five table clinics outlining the Jankelson full denture technique. The clinicians were Drs. Roy Hager, Arnie Lane, Aubrey Olsen, Archie McGinnis, Harold Knight, Clare Olsen, Andy Revell and Sperry Fraser. A number of accredited laboratory owners were also invited to this meeting. Due to the success of this meeting, the executive has recommended more evenings of this type. A successful curling season came to a close with a very close decision to the physicians in a one day bonspiel. Previously Edmonton won the Alberta laurels against Calgary and Central Alberta. The winners of the regular season were: A Section—Bruce Cameron, Skip, Harold Knight, Bob Margolis and W. Taskey. B Section—Gerry Gerolamy, Skip, A. Olsen, Roy Costigan, Ken Stensrud.

A.A.O.

BRITISH COLUMBIA

Kootenay Dental Society

Dr. Robert A. Walley of Trail was elected as the new president of the Kootenay Dental Society at the semi-annual meeting in April.

Dr. T. Walhovd of Creston is vice-president, and Dr. M. R. Bayes of Nelson, secretary.

Dentists from Grand Fork, Nelson, Rossland, Trail, Castlegar, New Denver, Creston, Cranbrook, Golden and Fernie, attended. A welcome was extended to two new members—Dr. E. Baja of New Denver and Dr. F. Muzaph of Golden.

College of Dental Surgeons

Elections for members of the Council of the College took place on April 20 when the following were chosen to represent the five electoral districts of the province: Drs. M. J. T. Dohan and S. F. Miles of Victoria; Dr. N. C. Ferguson of New Westminster; Drs. C. R. Hallman, E. E. Martin, W. P. Munsie and M. Nacht of Vancouver; Dr. H. J. Hocking of Kelowna; Dr. Wm. Gregorak of Rossland.

Dr. McPhail Accepts University of Alberta Post

This summer Dr. C. W. B. McPhail will join the Faculty of Dentistry of Alberta as Assistant Professor and Head of the Department of Public Health and Preventive Dentistry. He will concurrently hold the appointment of Director of Dental Health Services with the Alberta Department of Public Health.

Now serving in the Fraser Valley as Regional Dental Consultant, Dr. McPhail joined the Provincial Health Branch in 1952. Later he obtained his M.S.D. degree in paedodontia at Northwestern University, Chicago.

While Dr. F. McCombie was undertaking a Colombo Plan assignment with the University of Malaya, Singapore, Dr. McPhail served with distinction as Acting Director of the Division of Preventive Dentistry in British Columbia.

Vancouver and District Dental Society

The Banquet Room of the Hotel Vancouver was the scene of the April meeting with Dr. Max Nacht presiding. The attendance was

somewhat smaller than usual due to the counter-attractions of the Washington State convention in Seattle and a famous hockey game.

However the hundred who were present listened with interest to Dr. Alton Moore of the University of Washington Dental School who spoke in the afternoon on "Facial Growth and the Dentist," and in the evening on "Orthodontic Concepts for the General Practitioner."

The importance of a knowledge of facial growth was stressed if the dentist is to carry out treatment at the most favorable time. Cases with their treatment were outlined on the screen with a few illustrations of possible malpractice suits from faulty orthodontic treatment.

D. H. M.

MANITOBA

Winnipeg Dental Society

A successful windup to a successful clinical year was held by the Winnipeg Dental Society on April 6th.

This program was the Annual Home Talent Day and a wide variety of dental topics were very capably covered by volunteers from amongst the local practitioners.

To get things started Dr. Joe Rumberg chaired a panel group on the subject "Auxiliary Personnel in the Dental Office." This is a standing committee for the Manitoba Dental Association and their presentation showed a good many months research and effort.

Dr. Walker Shortill covered the field of what we would consider the outside auxiliary help, showing the use that could be made of such as bankers, chartered accountants, lawyers, trust companies and insurance brokers. These people can all contribute to a happier and more efficient practice. Dr. Don Procter then discussed the more efficient use of the inside auxiliary help, the hygienist, the receptionist and the dental assistant. These people all have to be trained in our individual way of doing things, but once trained every survey ever made shows that their use increases our ability to handle the demand for dental services and naturally increases our net income.

Dr. Ivan Jackson then outlined various training programs that had been started elsewhere for the dental assistants. He and the other committee members felt the evening extension courses under the auspices of the

local dental society were the answer to this problem. The recommendation that such a course be instituted in Winnipeg was made and it is likely to start during next fall.

Dr. Sid Katz then discussed the advantages and disadvantages to the group practice of dentistry. All of the professions seem to be adopting this method to a greater degree than ever before and dentistry is almost sure to follow. The problems of personality conflict, large over-head and employee turnover were ever present but were far outweighed by the advantages to be found both in the actual day to day handling of dental problems and also in the many extrinsic factors that go with any dental practice. Such things as retirement plans, death benefit plans, sickness and accident coverage, vacations, attendance at conventions and post graduate courses can all be arranged much more efficiently and with less financial burden on the individual.

Following this comprehensive group discussion, Dr. Alvin Shinoff presented the results of a local fee survey that had been conducted by the Society. This same kind of survey had been made several years ago and Dr. Shinoff correlated the new results with the old. The figures were quite surprising in some fields and the whole survey proved very interesting and informative. Dr. Shinoff spent many hours on these figures and should be congratulated on producing such a complete picture of the situation.

The noon business meeting featured the presentation of yearly reports and the election of new officers. The members who will comprise the executive for the coming year are: President, Dr. J. P. Beattie; Vice-President, Dr. G. W. Danzinger; Clinic Chairman, Dr. C. D. Rusen; Secretary-Treasurer, Dr. R. E. Wallace; Committee Members, Dr. S. Norquay and Dr. P. Goldberg.

Another highlight of the business meeting was the presentation of suitably inscribed gavels to a number of Past Presidents of the Winnipeg Dental Society. Much of the credit for the present healthy condition of the Society must be given to these men who spent so much of their time and effort in building the framework and in most cases are still very actively supporting it. The men so honoured and their tenure of office were:

Dr. Pat Riley	1929 - 1930
Dr. Clare McInnes	1930 - 1931
Dr. Jack Grahame	1931 - 1932
Dr. Bill Robb	1944 - 1945
Dr. Palmer Wood	1945 - 1946
Dr. M. J. Averbach	1958 - 1959

The afternoon was given over to table clinics and the enthusiastic attendance at these must have gratified the following men who worked so hard to prepare their presentations.

Table clinics April 6, 1959.

1. Dr. J. Passalis—"X-ray Interpretation"
2. Dr. H. W. Hart (U. of M. Dental School)—"Custom Prepared Inter-Maxillary Relations Records"
3. Dr. J. Burshtein—"Interceptive Orthodontics"
4. Dr. T. J. Cooke—"Margins and Cut Surfaces"
5. Dr. A. Diner—"Apicoectomy"
6. Dr. C. McCormick—City of Winnipeg School Children's Dental Service
7. Dr. W. J. Robb—"Dental Anomalies"
8. Dr. S. Borden—"Occlusal Equilibration"
9. Dr. G. Brass—"Thiocoll Impression Materials"
10. Dr. Ralph Connor—Dental Dept. —Dept. of Health and Welfare
11. Dr. B. Atnikov—"Amalgams"
12. Capt. E. Adler, R.C.D.C.—"Some New Drugs of use in Dentistry"

Dr. George Danzinger, the Society Clinic Chairman, looked after all necessary arrangements throughout the day. He is to be commended on the variety of material he was able to arrange for, and on the excellent manner in which the program was handled. The whole Society benefits greatly from this type of program. Both the men who take the time to prepare all the extra material and the other members who can see how other dentists are doing things under the same local conditions in which they are practising.

J. P. B.

ONTARIO

Rotarians Elect Dr. R. G. Woods

Dr. Russell G. Woods of Watford, was elected almost unanimously, District Governor of District 633 at the annual meeting of the Rotary Clubs of Michigan and Ontario International held recently in Port Huron. Along with 800 other Rotary District Governor nominees, he will attend a two week training course to be held at Lake Placid, N.Y.

Dr. Woods was born in Brooke Township, educated in Watford and London, and graduated from the Faculty of Dentistry of the University of Toronto. Dr. Woods moved to Watford in 1942.

Summary of Events of the Hamilton Dental Association (Feb. - Apr.)

This second half of the year, from February to April, was indeed highlighted by very fine clinics and most able clinicians. Dr. G. S. Anker, introduced by Dr. N. Mancini at our first regular meeting of the year, gave a clinic on "Various Techniques and Instrumentation with High Speed Rotary Dental Instruments." His talk was most timely because of recent introduction of such instruments into the practitioner's offices and he was rewarded by one of the finest turnouts of the year by the members of the H.D.A.

In February, the monthly meeting, had as a clinician, Dr. S. Posen, from Toronto. He was introduced by Dr. B. Morrow and thanked by Dr. F. Popovich. He described and illustrated his talk by slides, some very interesting orthodontic problems, and included some specialized orthodontic problems of adults.

"Have Drill, Don't Move," the title of a T.V. Panel Discussion, under the Dental Public Health Committee, was presented over CHCH/TV in Hamilton on March 9, 1959. The members of the panel were: Dr. Lorne Scott of Brantford, Dr. W. Feasby of Hamilton, Dr. W. Dunn, R.C.D.S., Toronto, Dr. F. Dawes of St. Catharines, and Dr. D. Moore of Hamilton. The topics discussed were: Fluoridation of Communal Waters, the Process of Dental Decay, Diet and Canada Food Rules, Sugar and Hidden Sugars in the Diet, Periodontal Diseases and the relationship to Childhood Etiology, Correct Toothbrushing Technique. This was only a half hour presentation and these topics were only briefly discussed. It is the hope of the Chairman of the Dental Public Health Committee, Dr. Geo. Clarke, that similar programs will be entertained in the not too distant future.

The March meeting of the Hamilton Dental Association was an afternoon and evening affair. Dr. Kerr of Ann Arbor, Michigan, was the clinician and his clinics came under the heading of "Occlusal and Periodontal Considerations." The afternoon session dealt mainly with the etiological factors responsible for Periodontal Disease and the elimination of these factors with treatments of a rational basis and governed by the local etiological factors. The evening clinic was demonstrated by a movie of gingivectomy, done firstly by an electro-needle technique, and secondly by surgical scalpel. Both techniques showed post-operative healing. Dr. Don Moore introduced Dr. Kerr, and Dr. D. Anderson expressed the gratitude of the Hamilton Dental Assoc.

The final regular meeting of the Hamilton Dental Association had three separate highlights. The guest speakers were Dr. G. M. Dewis of Halifax, president of the C.D.A.,

and Dr. D. W. Gullett, of Toronto, Secretary of the C.D.A. Dr. Dewis reviewed the history of the Association from its beginning in Montreal in 1902 and told of the enormous benefits derived from it.

He urged all members of the Hamilton group to take an increased interest in the national body since "what we get out of it will be in direct proportion to what we put into it."

Dr. Gullett paid tribute to the founders of the C.D.A. and he emphasized that the profession today must "reach forward to meet new and increasing obligations."

He concluded: "Almost anything can be accomplished for the profession provided we are prepared to work for it with continuity of effort."

Both speakers were thanked by Dr. F. Kilgour on behalf of the H.D.A. The second part of the meeting was reserved for the annual presentation of Honorary Life Memberships to the Hamilton Dental Association:

Dr. P. G. Anderson, of Toronto, was presented by Dr. A. Leckie.

Dr. A. Poag, of Hamilton, was presented by Dr. W. Clarke.

Dr. L. V. Janes, of Hamilton, was presented by Dr. G. Jackson.

The third part of the meeting was the election of the new executive of the H.D.A. They are as follows:

President, Dr. R. Finlayson; Vice-Pres., Dr. W. A. Banting; Secretary, Dr. L. J. Easter; Treasurer, Dr. S. Rosen; Chairman of Program Committee, Dr. B. Malloch; Directors, Dr. L. V. Janes, and Dr. N. Mancini; Archivist, Dr. A. R. Poag.

Dr. C. L. Strachan Honoured

Dr. Cecil L. Strachan, London dentist and president of the Ontario Dental Association, was honoured at a testimonial dinner in April.

Eighty-five members of the profession, the majority of them members of the London and District Dental Society, attended the dinner to honour Dr. Strachan's contributions to dentistry. Among the guests were Dr. R. G. Ellis, Dean, Faculty of Dentistry, University of Toronto; Dr. Don W. Gullett, Secretary of the C.D.A.; Dr. W. J. Dunn, Registrar of the R.C.D.S.; Dr. E. Guest, president-elect of the O.D.A.; Dr. R. Wood, past president of the O.D.A.; Dr. D. C. Stiles, director of the R.C.D.S., and Dr. Bruce Taylor, member of the Board of Governors of the O.D.A.

Dr. Strachan is a former president of the London and District Dental Society, a former member of the board of governors of the

Canadian Dental Association, and a former Lieutenant Colonel in the Canadian Dental Corps.

He graduated from the R.C.D.S. in 1923 and practised in Western Canada. During World War II he spent five years with the Canadian Dental Corps in Europe. After the war he began his practice in London.

Dr. A. J. Harris was chairman of the dinner. Dr. Stuart Whiteman, president of the local society, presented Dr. Strachan with an engraved silver platter on behalf of the society.

Ottawa Dental Society

Ottawa Dental Society elected the following slate of officers at its April meeting: Dr. J. C. Cummings, president; Dr. J. H. Young, vice-president; Dr. J. C. Tanton, secretary-treasurer; Dr. J. Berman, Dr. A. H. Crowson, Dr. M. Florence, Dr. W. D. Grant, Dr. Homer E. McIntosh, Dr. A. C. Murchison, Dr. J. Thomas, Dr. J. A. Whyte, and Dr. C. E. Woods, advisory board.

SASKATCHEWAN

Three Saskatchewan Dentists Honoured

Three Saskatchewan dentists who have served their communities for more than 50 years were honoured at the annual meeting of the Saskatchewan College of Dental Surgeons held recently.

Dr. Charles E. Smith, Saskatoon; Dr. F. R. Graham, Estevan, and Dr. Irwin Robb, Regina, were presented with honorary life memberships for the contributions they had made to the profession and the people they had served.

Dr. Robb is believed to be the only Canadian dentist who has three sons practising dentistry. They are Harvey and Douglas of Regina and George of Vancouver.

Tribute was paid to the three dentists by Dr. Duff Leask, Moose Jaw, president of the College, and Dr. R. O. Brett, Regina, who made presentations to the pioneers.

THE CORPS

Lt.-Col. R. B. Jackson Posted to No. 13 Coy Central Command

Lt.-Col. R. B. Jackson of Winnipeg has vacated the appointment assumed by Lt.-Col. Cornish and been posted to No. 13 Company, Central Command, as Senior Dental Officer at the National Defence Headquarters Clinic, Ottawa. Lt.-Col. Jackson received the D.D.S. from the University of Toronto in 1943. He served in Western Command, Central Command, Europe and aboard ship until his appointment to the Directorate of Dental Services in 1956. He is married with three children and resides in Ottawa.

Lt.-Col. C. M. Cornish Appointed Deputy Director Dental Services

Lt.-Col. C. M. Cornish of Ingersoll, Ontario, was recently appointed to the staff of the Directorate of Dental Services as a Deputy Director of Dental Services. Lt.-Col. Cornish is a 1942 graduate of the University of Toronto and an experienced officer of the Corps. During his 17 years in the R.C.D.C. he has served as a dental officer in Canada, abroad and at sea with the Navy. He is married with five children.



—National Defence Photo

During his recent visit to Western Command Brigadier K. M. Baird, Director General of Dental Services, called on Rear Admiral H. S. Rayner, D.S.C., C.D. and Bar, RCN, Flag Officer, Pacific Command RCN.

Pictured l. to r. are: Lt.-Col. R. E. Brown, Senior Dental Officer, HMCS Naden, Victoria, B.C.; Brigadier Baird; Admiral Rayner, and Colonel I. A. L. Millar, Commanding Officer, No. 11 Company RCDC, Edmonton.

Brigadier Baird Inspects No. 11 Company, Western Command

Brigadier K. M. Baird, Director General of Dental Services, inspected R.C.D.C. facilities at Navy, Army and R.C.A.F. Units in No. 11 Company, Western Command during April. No. 11 Company with headquarters in Edmonton is commanded by Colonel I. A. L. Millar.

During his trip Brigadier Baird also visited the following Militia Units:

No. 59 Dental Unit, Calgary—Commanding Officer, Lt.-Col. D. L. Thompson.

No. 60 Dental Unit, Edmonton—Commanding Officer, Lt.-Col. A. D. Fee.

No. 61 Dental Unit, Vancouver—Commanding Officer, Lt.-Col. F. K. Currie.

Colonel C. S. Lea Appointed Q.H.D.S.

The R.C.D.C. is pleased to announce that Colonel C. S. Lea, M.B.E., C.D., D.D.S., of Calgary, has been appointed a Queen's Honorary Dental Surgeon (Q.H.D.S.) for a period of two years. Colonel Lea graduated from the University of Alberta in 1939 and joined the C.D.C. in August, 1940. He served overseas for four years during the war in the United Kingdom and Northwest Europe and in 1945 commanded No. 2 C.D.C. Technical Training Wing in Utrecht, Holland. Since the war he has been active in the militia and was Commanding Officer, No. 9 Dental Company R.C.D.C. (M) in Calgary from 1951 to 1953. In June, 1945, he was appointed an Assistant Director of Dental Services, Western Command Advisory Staff and promoted to his present rank.

Lt.-Col. J. E. Merritt Promoted

Army Headquarters has announced that Lt.-Col. J. E. Merritt, E.D., D.D.S., of Halifax, has been promoted to the rank of Colonel and appointed Assistant Director of Dental Services (Militia), Eastern Command Dental Advisory Staff effective May 1st.

Colonel Merritt commenced his military service with the 48th Highlander in 1932 and was a member of the University of Toronto Contingent of the COTC during his undergraduate years. Following his graduation from the University of Toronto in 1943 he joined the C.D.C. and served in Canada, Germany and the United Kingdom during the war, retiring to the supplementary reserve in 1946. In July, 1948, he was commissioned in the R.C.D.C. (Militia) and was appointed to command No. 50 Dental Unit (Militia) as a Lt.-Col. in November 1952.

Maj. G. MacDougall in Canada

Major G. MacDougall of Sherbrooke, Quebec, returned to Canada in April after serving eight months as Officer Commanding the Canadian Dental Detachment with the United Nations Emergency Force in the Middle East. He is now employed in No. 13 Company, Central Command.

Capt. J. S. Davis in Middle East

Captain J. S. Davis of Florenceville, N.B., recently proceeded to the Middle East for service with the United Nations Emergency Force. Captain Davis, who is 29, received his B.Sc. from Dalhousie University in 1953 and graduated in Dentistry from the University of Toronto in 1957. Since graduation he has been employed at Ipperwash, Ont.

General Corps News

Major J. P. R. Guay, Quebec City and Major J. W. Jolly, R.C.A.F. Station, Centralia, Ont., recently attended short post-graduate courses at the U. S. Naval Dental School, Bethesda, Maryland. Major Guay's course was on High Speed Orientation and Major Jolly's on Complete Dentures.

The following short service officers have been released from the Corps on completion of their tour of duty:

Captain E. Adler, Vegreville, Alberta.

Captain W. D. McGinnis, Edmonton, Alberta.

Captain C. S. Whitman, Montreal, Quebec.

Civil Defence Training for Militia Dental Unit Mass Casualty Care Course

A training course in Mass Casualty Care has been completed recently by Officers of 54 Dental Unit CA(M). This course, very comprehensive in scope, was organized by 12 Militia Group Headquarters, and was conducted at Wallis House, Ottawa.

It may well be described as a very successful experiment in combined training of personnel who would be called upon to co-operate during an emergency, in a common service.

Some forty people were in attendance during the seven weeks course. Officers of 54 Dental Unit CA(M), officers of 10 Medical Coy CA(M) and officers of 4007 Auxiliary Medical Unit RCAF, together with Regimental Medical Officers of Militia Units and some civilian Dental and Medical practitioners were among those present.

GENERAL NEWS

Fédération Dentaire Internationale

A Commemoration Fund has been established in honour of the memory of Dr. A. E. Rowlett.

The Fund originated on the death of Alfred Rowlett to enable a commemorative lecture to be given on his life and work and subsequently, on those of other members of the odonto-stomatological profession, who have rendered distinguished services to the Fédération Dentaire Internationale. Initially the sum of approximately \$300 was donated from various sources.

Contributions can be sent to the National Treasurer for the Fédération Dentaire Internationale in your country, or direct to Dr. G. Leatherman, 35 Devonshire Place, London, W.1., England, (cheques being made payable to the "Fédération Dentaire Internationale") or direct to Account No. 503330, International Dental Federation, Amsterdamsche Bank N.V., Amsterdam, Netherlands, advising the Treasurer, Dr. J. Stork, 3 Zandvoortweg, Aerdenhout, Netherlands of these payments.

National Dental Research Building

Ground breaking ceremonies for the \$4 million National Institute of Dental Research Building were held April 13th. Principal participants in the ceremony at the National Institute of Health, Bethesda, Maryland, were: Dr. C. Willard Camalier, Asst. Secretary of the American Dental Association, Dr. J. A. Knutson, Chief Dental Officer, Public Health Service, and Dr. Francis A. Arnold, Director of the National Institute of Dental Research.

\$9,725,000 Voted For Dental Research And Training Schools

An appropriations bill, carrying a \$2,305,000 increase for dental research and training grants, was before the House of Representatives for action April 13. The increase — \$305,000 more than was recommended by the A.D.A. in congressional testimony April 15 — was approved by the House Appropriations Committee to make for a total of \$9,725,000 for programs to be carried out under the auspices of the National Institute of Dental Research for the new fiscal year, beginning July 1.

Travel Grant From National Institute of Dental Research

The N.I.D.R. has given the American Dental Association a grant of \$10,000 to assist dental educators and research men from abroad to come to the Centennial Session and participate in the scientific program. In addition, the grant will enable the dentists to visit research and educational centres in the U.S. before and after the session.

Special Stamp for A.D.A. Centennial Celebration

The U. S. Post Office has announced the design of the commemorative stamp which will be issued September 14 in honour of the Centennial Celebration of the American Dental Association.

The four-cent stamp will be issued in New York on the first day of the Centennial Session of the Association. The design features the silhouette figures of a boy and girl at play and a little girl smiling. Above the silhouette figures is the wording "dental health" and below figures, "American Dental Association 1859-1959." The wording "United States Postage," stretches across the bottom of the stamp and the value "4c" appears in the lower right hand corner.

The stamp was designed by Charles Henry Carter, Canadian-born artist, now a U.S. citizen and resident. An initial printing of 120 million has been authorized.

New Film on Modernizing Dental X-Ray Equipment Available

A new motion picture, "Dental X-Ray Equipment; Alteration for Modern Radiation Hygiene," has been produced by the A.D.A. Council on Dental Research in cooperation with the National Bureau of Standards. The 16mm. sound film, in color, runs for 18 minutes and was designed to show members of the dental profession how good diagnostic x-ray pictures may be produced with a minimum amount of exposure for the patient. Included are procedures for checking x-ray equipment for collimation and filtration of the useful beam, for tube head leakage and for adequate length of the timer cord. Using the x-ray machines currently operating in most dental offices, the motion picture also shows how to use high speed film, either by reducing the milliamperage or by increasing the target-film distance. The film is available on loan from the A.D.A. Film Library, 222 E. Superior St., Chicago 11.

National Standard for Dental X-Ray Films Sought

Dr. George C. Paffenbarger, of Washington, D.C., chief of the A.D.A. research staff at

the National Bureau of Standards, has been appointed chairman of a new committee of the American Standards Association to develop uniform specifications for dental x-ray films. The committee is designated officially as the ASA Sectional Committee on Specifications for Dental Radiographic Film, PH6. At an initial conference of dentists, dental equipment and x-ray film manufacturers and government officials to consider the project, Dr. Paffenbarger noted the concern among dentists and the public about x-ray exposure and pointed to the Association's interest in obtaining uniform specifications for film speeds, nomenclatures, sizes and other properties of x-ray films with the objective largely of minimizing the amount of radiation exposure. The A.D.A. has agreed to serve as administrative sponsor of the work.

Indiana U. Confers Honorary Degree On Dr. Lon W. Morrey

Dr. Lon W. Morrey, of Chicago, editor of *The Journal of the American Dental Association*, was awarded an honorary degree of doctor of laws from Indiana University at ceremonies April 22 marking the formal dedication of the school's new \$7,350,000 medical science building. Earlier in the year, Dr. Morrey received a distinguished service award from the Odontographic Society of Chicago "in appreciation of his contributions to dental journalism and literature."

1959 Volume of 'Index to Dental Literature' Now Available

The annual bound volume of the Index to Dental Literature for 1959 is now available and can be obtained for \$10 from the A.D.A. Order Department, 222 E. Superior St., Chicago 11. The volume lists 7,580 articles in English from 921 different issues of dental periodicals. There are 15,759 entries by subject and author.

100,000 Preliminary Programs for Centennial Session Distributed

As a forerunner to the A.D.A. Centennial Session, 100,000 copies of a preliminary program for the meeting have now been distributed to all members of the Association, to dentists abroad planning to attend the New York meeting and that of the Federation Dentaire Internationale and to officials of allied professional organizations. The Centennial Session will be held Sept. 14-18 in New York City. The F.D.I. is holding its 47th annual session simultaneously with that of the Association. The preliminary program is noteworthy for several features. One is a detailed article on activities and services of

the Association. Another is an article on the F.D.I. And the third is a concise report on the scientific program, revealing its unusually comprehensive aspect. Included also are descriptions of the many special events being held in connection with the Centennial Session and an interesting description of New York City. The 135-page volume contains an application for housing reservations at the five-day meeting. Ample hotel accommodations are available. The application should be sent to the American Dental Association Housing Bureau, P.O. Box 5440, Chicago 7.

Dentists Urged to Cooperate in 1959 Survey of Dental Practice

Nearly one-half of the nation's dentists will be asked to cooperate in a survey of dental practice to be conducted by the A.D.A. Bureau of Economic Research and Statistics in mid-May. A special purpose of the 1959 study is to obtain factual data regarding dental practice that can be used in considering insurance programs for dentistry. The information is also needed to counteract misinformation being used in some proposed schemes involving dental health. It will be of particular value to representatives of the profession who need to deal with government and private agencies in program planning. "What is needed basically is an accurate picture of the amount and type of dental services being given throughout the country together with the age and sex of patients receiving the services," Mr. B. Duane Moen, director of the Bureau of Economic Research and Statistics, said. The first part of the questionnaire will deal with general information about the practice of the individual dentist and the second part will be a chart on which the dentist will be requested to keep a record of one day of practice during the week of May 18. Each questionnaire will be without identification and no signature will be required. Dentists who receive the questionnaire are urged to cooperate in providing the requested information. The results of the study will provide a yardstick against which the individual dentist will be enabled to measure his own practice. Dentists participating in the survey can request an advance summary of results by returning a postcard that will be enclosed with the questionnaire.

'Denturist' Bill Defeated in Third State Legislature in U.S.A.

A third state legislature has defeated a "public denturist" bill which would permit

dental laboratory technicians to deal directly with the public in prosthetics. In Nevada, the state legislature adjourned with the bill bottled up in committee after two hearings held jointly by the Public Health and Morals, and Judiciary committees of the Senate. Earlier, similar measures had met defeat in Georgia and in the state of Washington. In a fourth state legislature, that of Oklahoma, a committee of the lower house sent a "denturist" bill to the floor without recommendation following hearings March 18. The Oklahoma version of the measure would permit "master technicians" to take impressions and would authorize establishment of a separate state board for the licensing of "denturists." The Oklahoma bill was the only "denturist" bill still pending in a state legislature last week. As a postscript to defeat of the measure in Georgia, two officials of the "denturist" organization, the Association of Independent Dental Laboratories of Georgia, were given suspended sentences of three years imprisonment and received fines of \$250 each on charges of practicing dentistry without a license. The case was brought by the State Board of Dental Examiners. The sentencing took place in the City Court of Macon on March 20. On the national level, alleged operators of three Chicago mail order denture firms accused of violating the federal denture law were to be arraigned in U.S. District Court on April 7.

Kellogg Foundation Awards \$100,400 to Illinois for Teacher Training

The W. K. Kellogg Foundation has awarded a grant of \$100,400 to the University of Illinois College of Dentistry for a three-year graduate education program to prepare dentists for teaching careers. The program will be carried out through a series of seminars in education, through supervised teaching and a series of educational research studies. "The comprehensive and newly developing program will not only help to meet the need for better qualified dental teachers but will also expand the number of such teachers," the Foundation said in announcing the award.

Hine and Noyes Re-elected to Board

At the annual meeting of the Fund for Dental Education, which was held during the thirty-sixth session of the American Association of Dental Schools in San Francisco, March 23, 1959, Maynard K. Hine, Dean, Indiana University Dental School, and Harold J. Noyes, Dean, University of Oregon Dental School, were elected to serve three-year terms on the Fund's Board of Directors.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1959	Halifax, Nova Scotia	June 21st-24th
1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Ontario)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
Sept. 10-12, 1959	American Academy of Gold Foil Operators	New York City, N.Y.	Dr. C. C. Latham,	P. O. Box 266, Coronado 18, Calif.
Sept. 10-12, 1959	American Academy of Periodontology	Barbizon Plaza Hotel, New York	Dr. H. A. Hartman,	4187 Pearl Road, Cleveland 9, Ohio
Sept. 11-13, 1959	American Academy of Implant Dentures	Hotel Plaza, New York City, N.Y.	Dr. A. A. Kulick,	4720 Broadway, New York City.
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden,	183 Metcalfe St., Ottawa, Ont.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
May 15-18, 1959	Ontario Dental Association Convention	Royal York Hotel Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY

Postgraduate course in Advanced Orthodontics—2 weeks beginning January 17, 1960.
For practising orthodontists only. For further information apply to: Dr. Louis Herman, Director of Postgraduate Studies, Temple University School of Dentistry, 3223 North Broad St., Philadelphia 40, Penna.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

Special Participation Course in Full Denture Prosthesis, 1 week Sept. 21 thro' Sept. 25, 1959. Tuition \$200. Class limited.

Cosmetic Variations in Jacket Crown & Bridge Restorations Involving Periodontal Lesions.—Sept. 21, 22, 1959—Tuition \$60. Class limited.

For further information apply to: Tufts University School of Dental Medicine, Division of Graduate & Postgraduate Studies, 136 Harrison Ave., Boston, Mass.

L'Association Dentaire Canadienne.

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Quelle attitude adopter en présence d'une leucoplasie ou d'un lichen plan?*

par P. CERNEA, professeur agrégé (Paris)

Quels sont les problèmes que posent au praticien la leucoplasie et le lichen plan? Ils sont surtout diagnostic, pronostic et thérapeutique, l'étiologie n'étant pas encore complètement éclaircie.

Le diagnostic est parfois facile, deux tableaux s'opposent:

La leucoplasie, sous la forme d'une plaque superficielle, d'un blanc nacré, parfois parsemée de petites stries lui donnant un aspect quadrillé. Cette plaque peut se couvrir de petites élevures, pouvant lui conférer un aspect verruqueux, mais la base reste souple. Les trois sièges d'élection sont la langue, la région rétro-commissurale de la joue, la face interne des lèvres. A la langue, la leucoplasie s'accompagne fréquemment de zones de dépapillation. Les leucoplasies anciennes

sont capables de s'ulcérer: c'est l'ulcère leucoplasique de DARIER, ulcération plane, jaunâtre, atone, parfois douloureuse, dont la nature syphilitique fût discutée et qui ne s'observe plus guère de nos jours.

Le lichen plan est composé de points blancs ou blanc bleutés, de $\frac{1}{4}$ à 1 millimètre de diamètre, ce sont les papules lichéniennes, légèrement surélevées, donnant au palper une sensation grenue assez comparable à la peau de chagrin. Le groupement de ces papules, leur coalescence, donne à la lésion des aspects variés: en plaque, en strie, en réseau, en feuille de fougère... Ces lésions reposent sur une muqueuse saine, elle apparaît dans les espaces laissés par le lichen. Le siège d'élection du lichen est la joue dans la région des dernières molaires, en regard de la ligne d'occlusion, mais il peut s'observer avec une grande fréquence à la

*Communication présentée au cours du Congrès de l'Association Denture Canadienne, tenu à Montréal en octobre 1958.

langue, plus rarement sur le palais, les gencives ou les lèvres. Le lichen plan buccal peut exister à l'état isolé ou associé à un lichen cutané.

Les examens histologiques confirment encore les différences entre les deux lésions: dans la leucoplasie: un épaissement du corps muqueux de Malpighi avec acanthose, l'apparition d'une couche cornée très épaisse et une sclérose du derme. Dans le lichen plan; également au niveau de l'épiderme apparition d'une couche cornée, mais le derme est le siège de perturbations importantes et caractéristiques, les dilatations des anses papillaires due à un infiltrat qui s'étend progressivement de la base au sommet des papilles, celles-ci s'arrondissent, s'élargissent, pour finalement fusionner en "coupole".

Mais, le diagnostic peut-être très difficile.

Certaines leucoplasies ont une disposition "en bande", elles s'étendent parfois tout le long de la joue en regard de la ligne d'occlusion.

Le lichen n'a pas toujours un aspect en réseau; il peut apparaître en nappe, s'accompagner de sclérose; les lésions anciennes tendent à se transformer en placards compacts, plus épais, plus rudes au toucher; dans d'autres cas, le lichen devient érosif. La forme scléreuse atrophique superficielle d'aspect syphiloïde a la morphologie de la glossite scléreuse atrophique superficielle syphilitique. La forme érosive se caractérise par une érosion rouge vif, brillante, un peu gonflée, de forme plus ou moins losangique; elle siège souvent à la périphérie d'une plaque de lichen typique. Dans les formes atypiques de lichen, le diagnostic repose sur l'existence d'autres lésions lichénienues muqueuses ou cutanées, il faut rechercher la présence de papilles lichénienues typiques disséminées autour de la lésion. Même l'histologie n'affirme pas toujours la nature de cette kératinisation et on ne peut pas toujours dépasser le diagnostic bien vague de leucokératose.

Le pronostic ne s'est-il pas modifié depuis le jour où les anciens auteurs affirmaient

que la leucoplasie était un cancer en puissance, tandis que le cancer n'apparaissait jamais au cours d'un lichen.

La leucoplasie est-elle suivie inévitablement de l'évolution d'un cancer? Certaines variétés ont-elles un pronostic plus réservé?

C'est la discussion de l'existence d'états dits pré-cancéreux: existe-t-il un état préparatoire à la faveur duquel évolue le cancer, état en quelque sorte nécessaire ou au contraire n'appartient-il pas en propre à l'état de cancérisation? au point de n'être qu'une phase de son évolution?

Avec MENETRIER, PAGET, VIRCHOW, CONHEIM . . . qui ont contribué à lancer le terme d'états pré-cancéreux, le cancer est l'aboutissant d'états pathologiques multiples antérieurs et préparatoires. Pour DARIER, l'état pré-cancéreux est anatomique, dystrophique ou lésionnel; il est si fréquemment à l'origine du cancer que le fait ne peut être le résultat du hasard. CIVATTE souligne qu'il semble exister deux groupes distincts: celui pour lequel il y a continuité entre la dermatose pré-cancéreuse et le cancer, son aboutissement normal, son terme ultime, et celui où des affections multiples, cicatrices, fistules, . . . ne paraissent pas jouer un rôle de premier plan comme les affections du groupe précédent. L'éclosion d'un cancer in situ est une complication rare et peut être un accident au cours d'un processus inflammatoire prolongé tendant indéfiniment à une cicatrisation qui n'aboutit pas. CORNIL et MOSINGER pensent que la définition d'état pré-cancéreux est très difficile; le terme devrait être réservé strictement aux lésions se transformant inéluctablement en cancer; or, cette condition n'est remplie par aucune des lésions décrites.

DELARUE n'accepte pas non plus cette notion, "les leucoplasies linguales demeurent toujours pour la plupart des altérations bénignes, tandis que la majorité des cancers de la langue apparaissent sur des muqueuses dépourvues de leucoplasies".

Nous avions donc jugé utile, en 1953, de

revoir nos observations personnelles, d'étudier sur 225 malades atteints de cancers de la cavité buccale la fréquence des leucoplasies, leur siège, et celui du cancer, enfin la forme clinique de ces kératoses.

Sur 225 malades, 25 présentaient une leucoplasie; dans 11 cas le siège de la leucoplasie et du néoplasme coïncidait, dans 2 cas la kératinisation était une réaction péri-tumorale.

siège des épithéliomas	langue	langue + plancher	plancher	plancher + maxillaire	maxillaire inférieur	maxillaire inférieur + joue	joue	lèvre inférieure	lèvre supérieure	maxillaire supérieur (gencives)	joue + maxillaire + voile	lèvre + maxillaire + plancher	plancher + amygdale	total
nombre	41	20	33	23	28	12	22	4	1	9	23	4	5	225
leucoplasies	5	—	2	2	1	2	8	—	1	2	1	1	—	25

La répartition des leucoplasies suivant le siège du néoplasme mérite notre attention. Il faut noter la forte proportion de leucoplasies au cours des épithéliomas de la joue: 36% alors que le pourcentage général est de 9%.

Il est important d'étudier les onze observations où la leucoplasie a précédé in situ l'apparition d'un cancer; il s'agissait de leucoplasies verruqueuses. Elles formaient de véritables choux-fleurs, couvrant une partie de la langue ou de la joue; leur potentiel évolutif se manifestait par l'importance des blocs de kératine par la rapidité de leur réapparition après leur chute. Peut-on vraiment assimiler de tels états aux leucoplasies isolées, superficielles, stables, et le plus souvent ignorées des malades. Les premières s'observent souvent chez des syphilitiques, mais elles doivent être considérées bien plus comme des épithéliomas que comme des états pré-cancéreux, terme incertain d'ailleurs dans sa définition et dans ses applications. Ainsi, conçoit-on qu'à la belle époque de la syphilis, FOURNIER observant fréquemment de telles lésions, ait jeté un cri d'alarme pour attirer l'attention des praticiens sur la gravité des leucoplasies.

En résumé, le pourcentage des leuco-

plasies au cours de l'évolution des cancers de la cavité buccale est beaucoup moins élevé que ne le voulaient les classiques. Il semble que dans plus de 90% des cas les néoplasmes naissent en muqueuse apparemment saine. La leucoplasie n'est pas fatalement suivie de l'apparition d'un cancer, mais les leucoplasies verruqueuses restent graves par leur tendance évolutive, leurs constants remaniements; elles s'apparentent davantage à de véritables épithéliomas.

Le lichen est-il toujours une affection bénigne?

Le pronostic que lui accordaient les classiques s'opposait point par point à celui de la leucoplasie, tout en restant aussi formel. DARIER, dans son traité de dermatologie écrivait que "le lichen plan buccal ne donne jamais naissance au cancer". Tous les auteurs étaient d'accord pour lui attribuer une évolution constamment bénigne. Certes, cette évolution se fait toujours avec lenteur, échelonnée sur des mois et des années. Tantôt il reste stable, tantôt il se déplace ou s'étend très lentement à l'occasion de poussées subaiguës; mais ces modifications s'effectuent à un rythme très lent sans jamais prendre un caractère inquiétant. Le lichen peut guérir spontanément, mais, il peut réci-

diver après une extinction de plusieurs années; cette évolution, il faut bien le dire, n'est que peu modifiée par le traitement médical. Les complications sont exceptionnelles et, dans l'esprit des auteurs, toujours bénignes. Telle est l'opinion classique.

Quelques observations ont pourtant été publiées, il y a plus de vingt cinq ans, signalant l'apparition d'épithéliomas sur des lichens plans buccaux; mais, plus récemment des observations analogues se sont multipliées; nous avons pu en observer 9 cas et le Professeur DECHAUME sur 50 cas de lichen a relevé 5 évolutions malignes. Si ce nombre est faible en regard de la réelle fréquence du lichen plan buccal, il n'en mérite pas moins pour des raisons évidentes un examen attentif.

Il est d'abord permis de se demander, étant donné la relative rareté de la co-existence du cancer et du lichen, s'il ne s'agit pas d'une juxtaposition fortuite. En fait, l'apparition d'un épithélioma est toujours précédée de fortes poussées évolutives marquées par l'extension en surface, des fissures ou érosions et des douleurs. Il est donc plus intéressant de rechercher si les lichens dont l'évolution peut être grévée d'un cancer, ne présentent pas des caractères particuliers. L'aspect le plus fréquent est sans conteste la *forme érosive*: tantôt, il s'agit d'une simple érosion recouverte d'une mince couche épithéliale plus ou moins décollée; ailleurs, c'est une véritable ulcération revêtant l'aspect d'une plaie atone dont les contours sont nettement délimités, la surface régulière, lisse, couleur rouge vif, jamais saignante. Par endroits, une mince membrane fibrino-leucocytaire la recouvre et la nuance d'un blanc opalin. Les *formes hyper kératosiques* simulant plus ou moins la leucoplasie, s'observent également. Enfin, dans certains cas, on rencontre des formes difficiles à classer, parce qu'elles se modifient constamment: nous les appellerons *formes évolutives*. Elles sont caractérisées par leur extension, les fissures qui apparaissent à leur surface, les douleurs qui les accompagnent.

Un second point reste à préciser la date

d'apparition de la néoplasie. En fait, tantôt le cancer survient tardivement, après un délai qui peut atteindre plusieurs années; tantôt, le lichen est récent et paraît évoluer en même temps que le cancer. Ces faits paraissent contradictoires, mais, il faut bien remarquer que les poussées évolutives du lichen précèdent la découverte du cancer, ces poussées surviennent soit sur des lichens anciens qui paraissent stabilisés depuis longtemps ou sur des lichens évolutifs d'emblée.

En résumé, il semble bien que l'on ne puisse plus accepter le pronostic toujours optimiste que formulaient les anciens auteurs à l'égard du lichen plan buccal. Le cancer peut apparaître au cours de l'évolution d'un lichen; doit-on alors adopter une attitude rigoureuse et conclure que cette affection est douée d'un potentiel malin dont le pronostic doit faire l'objet des plus expresses réserves? Nous ne le pensons pas; la clinique montre que dans l'immense majorité des cas le lichen plan buccal reste une maladie bénigne; mais, nous pensons qu'il faut comme pour la leucoplasie établir un pronostic différent selon le lichen en cause. D'un côté, nous classerons les formes stables, non érosives, reposant sur une muqueuse saine et sans tendance évolutive; ce sont de loin les formes les plus répandues de pronostic bénin. Dans un second groupe, nous rangerons les formes atypiques, érosives, ulcéreuses, douloureuses et extensives. Ces formes sont rares, mais, doivent être tenues pour très suspectes. Il faut reconnaître que leur séméiologie s'éloigne parfois singulièrement de celle des formes classiques, mais, leur diagnostic est pourtant capital, car, il faut insister sur la gravité des épithéliomas développés sur lichen: leur évolution est souvent précipitée, leurs récives précoces et étendues.

La pathogénie de la leucoplasie et du lichen plan s'est-elle éclaircie?

Nous n'avons pas fait de progrès dans ce domaine; nous savons certes, que la syphilis a joué autrefois un grand rôle dans l'apparition de la leucoplasie; notre devoir aujourd'hui, où cette maladie est

en pleine régression, est d'y penser encore. Les irritations externes ont été invoquées et le tabac en est la plus classique, avec les irritations d'origine dentaire.

Le lichen a connu de multiples interprétations; le seul fait clinique constant est le terrain sur lequel il évolue: ce sont des sujets émotifs, éprouvant un déséquilibre vago-sympathique important et l'éclosion du lichen survient souvent à l'occasion d'un choc émotionnel.

Quelle attitude faut-il donc adopter en constatant la présence d'une leucoplasie ou d'un lichen?

Une leucoplasie plane, banale, évoque l'existence d'une irritation locale d'origine dentaire ou tabagique qui devra être supprimée; elle ne dispense pas de la recherche de la syphilis.

Une leucoplasie verruqueuse est beaucoup plus évocatrice de la syphilis, si elle est confirmée. Le traitement est classiquement sans action, pourtant il arrive de voir une nette amélioration des lésions,

sinon, une exérèse ou une large destruction de la plaque s'impose. Elle est cependant discutable dans des leucoplasies très étendues qui sont terriblement récidivantes et doivent être soumises à une surveillance régulière.

Une leucoplasie qui s'indure est un épithélioma et doit être traitée comme tel.

Le lichen plan en réseau ou en plaque ne demande qu'une thérapeutique médicale générale, à base d'arsénicaux et de sédatifs vago-sympathiques.

Le lichen érosif nécessite en plus, si la cicatrisation des lésions ne survient pas rapidement, l'électrocoagulation en surface de la partie ulcérée et un contrôle histologique.

Le traitement local de ces kératoses est sans effet, à part les bains avec l'eau de Saint-Christau et la cure dans cette station thermale; tous les produits irritants ou caustiques seront proscrits et en cas de doute une biopsie sera toujours pratiquée; elle consiste le plus souvent en une exérèse-biopsie.

Nouvelles du Corps Dentaire Royal Canadien

Au cours du mois d'avril, le brigadier K. M. Baird, Directeur général des Services dentaires, a inspecté les installations du Corps Dentaire Royal Canadien aux unités de la Marine, l'Armée et l'Aviation, de la 11^e Compagnie, dans la Région militaire de l'Ouest. La 11^e Compagnie, dont le quartier général est à Edmonton, est commandée par le colonel I. A. L. Millar.

Pendant son voyage, le brigadier Baird a également visité les unités suivantes de la Milice:

La 59^e Unité dentaire, à Calgary, commandée par le lieutenant-colonel D. L. Thompson.

La 60^e Unité dentaire, à Edmonton, commandée par le lieutenant-colonel A. D. Fee.

La 61^e Unité dentaire, à Vancouver, commandée par le lieutenant-colonel F. K. Currie.

Le major G. MacDougall, de Sherbrooke (P. Qué.) est rentré au Canada en avril, après avoir servi huit mois à titre de commandant

du Détachement dentaire canadien affecté à la Force d'urgence des Nations Unies au Moyen-Orient. Il est actuellement attaché à la 13^e compagnie, dans la Région militaire du Centre.

Le major J.-P.-R. Guay, de Québec (P.Q.), et le major J.-W. Jolly, de la station de l'ARC, à Centralia (Ontario), ont récemment suivi des cours post-universitaires de courte durée à l'Ecole d'art dentaire de la Marine des Etats-Unis, à Bethesda (Maryland). Le major Guay a suivi un cours sur l' "orientation" à grande vitesse, et le major Jolly, sur les dentiers.

Les officiers suivants, titulaires de brevets à court terme, ont été libérés du Corps dentaire après avoir terminé leur période de service:

Le capitaine E. Adler, Vegreville (Alb.).

Le capitaine C. S. Whitman, Montréal (P. Qué.).

Le capitaine W. D. McGinnis, Edmonton (Alb.).

Facteurs étiologiques des affections du parodonte

par Wm J. CARTER¹

On considère maintenant que les parodontites, soit les inflammations invasives de la gencive, sont provoquées par un ou plusieurs facteurs appartenant à la cavité buccale. Nombre de chercheurs accusent la flore buccale et tendent à classer les micro-organismes présents selon les modifications qu'ils provoquent. Celles-ci peuvent être classées en *gingivites*, dans lesquelles un excès de bactéries et de produits microbiens se rencontre dans la gencive, et en parodontites, qui se caractérisent par une extension du processus initial aux structures plus profondes du parodonte (1). Le micro-organisme impliqué dans la première phase de ces lésions doit nécessairement posséder une activité kératinolytique, alors que celui que l'on retrouve lors de la seconde phase doit être doué d'un pouvoir collagénolytique.

On a consacré de nombreuses études pour tenter de définir clairement le rôle des éléments de la flore buccale dans les affections du parodonte. Le problème à résoudre était le suivant: **les bactéries sont-elles les agents déclenchants du processus morbide ou ne jouent-elles qu'un rôle accessoire en tant qu'envahisseurs secondaires d'une gencive déjà dégénérée et malade?** Shklair et Renn ont étudié la distribution du *Pseudomonas aeruginosa* dans la salive d'individus répartis en diverses classes selon l'état de leurs gencives (2). Ces auteurs ont constaté que la distribution de cet agent était la même (14%) chez les sujets sains et chez les malades atteints du syndrome de Vincent, de gingivite ou de parodontite. Ils en ont conclu qu'il n'existait aucune relation entre ce micro-organisme et l'atteinte du parodonte.

Ces mêmes auteurs ont déterminé avec Englander (3) la distribution du *staphy-*

locoque doré, coagulase positive dans la salive totale d'individus normaux, et de malades atteints de diverses affections gingivales. Cet organisme a été rencontré chez 38% des malades atteints de syndrome de Vincent, dans 46% des cas de gingivites, enfin, chez 39% des sujets sains; on ne pouvait par conséquent tirer aucune conclusion touchant le rôle pathogène du staphylocoque doré. La fréquence avec laquelle on retrouve des entérocoques dans la flore buccale de malades atteints de gingivite a soulevé quelque intérêt, du fait du nombre élevé de cas (25%) dans lesquels on le rencontre en présence d'un carcinome de la bouche (4). On ne possède encore aucun renseignement à ce sujet en ce qui concerne la parodontite.

Un travail récent de Thonard et Scherp (5) a montré que l'incubation en milieu aérobie d'un tissu gingival provenant d'un malade atteint de parodontite conduisait à une autolyse complète de tous les éléments épithéliaux. On a constaté cependant que le tissu conjonctif collagène et réticulaire n'était pas altéré par ces micro-organismes indigènes. Wantland (6) et coll. ont observé qu'*Endomeba gingivalis* et *Trichomonas tenax* étaient capables de provoquer la cytolyse des cellules épithéliales, des érythrocytes et des leucocytes. Dans une étude portant sur 300 malades, ils ont retrouvé *E. gingivalis* dans 41% des cas et *T. tenax* dans 22%. On soulignera à ce propos que ces protozoaires ne sont pas des hôtes normaux de la cavité buccale, sauf chez les habitants du Mexique et de l'Amérique centrale et méridionale.

La salive et ses composants enzymatiques ont donné lieu à de nombreuses et récentes études effectuées dans le but de déterminer l'action éventuelle de cette sécrétion sur la pathogénie des atteintes du parodonte. Ces études se sont centrées sur l'isolement des diverses fractions enzymatiques de la salive, sur leur défini-

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tion exacte et sur l'analyse de leurs modifications dans les conditions physiologiques, *Hoermann Englander* et *Shklair* ont étudié le rôle du lysozyme salivaire. Ils ont constaté que les glandes sous-maxillaire et sublinguale possédaient un taux plus élevé en lysozyme que la parotide. On avait déjà relevé il y a quelques années que l'augmentation du taux du lysozyme gastrique pouvait être mise en parallèle avec l'apparition d'ulcères gastro-duodénaux. Il paraît donc séduisant de rapprocher également une élévation du taux de lysozyme buccal d'une atteinte ulcéreuse de la gencive. Comme on a découvert qu'une fraction de la salive sublinguale et sous-maxillaire, faisant partie du groupe des mucopolysaccharides, possédait une action inhibitrice sur le lysozyme parotidien, il a paru plus indiqué d'étudier le ferment provenant de cette glande. On a constaté des différences considérables dans les taux de lysozyme des sujets atteints de syndrome de Vincent et celui des individus normaux. Néanmoins, l'importance de la différence n'était pas telle qu'elle forçât l'adhésion.

Des études conduites au Japon chez des enfants des écoles ont montré que la gangrène buccale progressive accompagnée de gros dégâts de l'os alvéolaire se produisait en l'absence de catalase sanguine (8). Afin de déterminer s'il existait une relation entre le taux sanguin de la catalase et les lésions osseuses alvéolaires de la parodontite, on a dosé cet enzyme chez 198 sujets normaux et chez 59 malades souffrant d'une atteinte grave du parodonte (9). Les résultats obtenus n'ont pas révélé de différences significatives entre les taux de catalase sanguine rencontrés dans les deux groupes.

Dans d'autres recherches, on a testé l'activité de la cholinestérase sanguine, de la bêta d-glucosidase et de la bêta d-galactosidase, à partir de la salive de malades et de sujets sains (10). On n'a pas constaté de différences significatives entre les deux groupes. Dans un rapport préliminaire, *Englander* et coll. (11) ont constaté qu'il n'existait pas non plus de

rapports significatifs entre un taux sérique élevé de mucoprotéines et de polysaccharides et une parodontite sévère avec importante résorption alvéolaire. Le but de cette étude était de constater dans la résorption les effets de la dépolymérisation des mucoprotéines de la substance fondamentale du tissu conjonctif, qui sont constituées par des protéines liées à des polysaccharides hautement polymérisés qui forment l'acide chondroïtine sulfurique.

L'activité en aldolase de la salive humaine (12) et en phosphatase acide de la salive parotidienne (13) a également été déterminée. On a découvert que l'activité en alcalase était globalement de 40% plus élevée que dans la salive parotidienne, mais on n'a pas tenté de mettre en relation ce fait avec la pathologie. Le taux de la phosphatase acide parotidienne s'est montré élevé chez des malades atteints de cancer de la prostate précoce et avancé (non traité). Des publications récentes touchant l'électrophorèse des protéines de la salive parotidienne ont montré que les composants protéiques les plus importants sont comparables à des globulines lentes, mais on n'a pas pu mettre en évidence d'albumines (14).

Fosdick, Blackwell et *Carter* (15) ont examiné les produits de putréfaction dans la salive des sujets normaux et des individus atteints de parodontite. On a dosé par colorimétrie une substance colorable par la ninhydrine, que l'on a pensé être de la méthylamine. La teneur en méthylamine s'est trouvée élevée (plus de 2 mg. %) chez les malades atteints de parodontite active, alors qu'elle était inférieure à 2 mg.% chez les sujets normaux.

Une des modifications histologiques les plus précoces dans la parodontite, est l'interruption de l'épithélium gingivo-alvéolaire. Les modifications cytologiques paraissent atteindre le noyau en même temps que l'on assiste à la dissolution des ponts intercellulaires. *Carter* (16) s'est efforcé d'isoler l'enzyme ou l'agent chimique responsable de ces modifications histologiques.

Une étude préliminaire des enzymes connus a révélé que la pepsine, la trypsin, la papaine et le lysozyme peuvent provoquer des modifications variées de l'épithélium gingival humain. La trypsin est probablement l'agent lytique le plus actif de ce groupe. *Stroughton* (17) a attiré l'attention sur un enzyme, ou un facteur d'action enzymatique, isolé des matières fécales de malades souffrant de colite ulcéreuse, et capable de détruire l'épithélium du revêtement cutané même après fixation. *Carter et Reeve* (18) ont également tenté de déterminer l'action de divers tampons et solutions chimiques qui pourraient être impliqués dans la lyse des tissus épithéliaux. Les effets de la soude caustique en solution décimale et de l'acide chlorhydrique à concentration équivalente, sont superposables. La rupture de l'épithélium a également pu être provoquée par une solution tampon au pH7 et de l'urée.

Discussion

Les arguments les plus solides lorsque l'on considère la pathogénie de la parodontite, parlent en faveur d'une intervention microbienne et enzymatique (par le système enzymatique bactérien). On doit également envisager le fait qu'il pourrait s'agir d'une mutation survenue dans une espèce de micro-organismes. Cependant, dans la longue liste des maladies infectieuses humaines bien délimitées, il n'existe pas d'exemple dans lequel on doive rendre responsable plus d'une espèce de micro-organismes. Le fait que cette affection apparaît à tous les âges, *pourvu qu'il existe des dents*, nous incline à penser que le micro-organisme responsable est probablement un membre de la flore buccale banale. Dans certaines conditions géographiques, on pourrait incriminer l'amibe, par exemple, au Mexique, et dans l'Amérique du centre et du sud.

Les clostridies possèdent toutes le pouvoir nécessaire à la destruction tissulaire, mais leur nombre et la fréquence avec laquelle elles parasitent la cavité buccale ne peuvent être mis en relation avec l'épidémiologie de la parodontite. Il est également évident que si l'on a découvert des protéases détruisant l'épithélium gingival, on n'a pas encore réussi à rencontrer de vraies collagénases microbiennes.

Ainsi, un faisceau de preuves toujours plus important semble montrer que nombre des saprophytes buccaux peuvent être considérés comme des agents pathogènes en puissance, capables de provoquer un jour l'apparition d'une parodontite. Il est de moins en moins important de considérer les bactéries buccales comme de simples témoins des lésions et l'on devrait diriger les recherches plus spécifiquement vers la mise en évidence d'un organisme spécifique.

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PAGES EDITORIALES

L'incorporation des services dentaires

L'Association dentaire canadienne, depuis plusieurs années, recommande aux provinces d'établir chez elles une corporation de services dentaires, pour grouper sous une même égide, sans but lucratif, l'administration de tous les plans pour le paiement des honoraires des traitements.

Plusieurs provinces se sont déjà procuré une corporation pour les services dentaires; la province de Saskatchewan a battu la marche; l'Alberta a suivi; l'Ontario inaugurerait récemment un plan du genre et la Nouvelle-Ecosse a pris les dispositions pour commencer son système au mois de juillet prochain.

Les chartes des Collèges provinciaux ne leur permettent pas d'administrer des systèmes pour régler les honoraires; assurances, plans de pré ou de post-paiements. C'est pourquoi, les organismes légaux des provinces, pour jouer le rôle qui leur convient dans l'organisation de systèmes qui sont à s'implanter aux Etats-Unis et au Canada, doivent aider à la formation d'une corporation d'après les lois des compagnies. Cela ne veut pas dire que les Collèges doivent demander aux législatures des lois spéciales. Il s'agit d'établir une compagnie à fonds limités avec un objectif précis, comme tout autre organisme qui manipule des fonds.

L'organisation des services de santé, à l'époque où nous vivons, se poursuit à un rythme accéléré. Au cours des dernières années, divers systèmes ont pris naissance pour des services autres que la dentisterie; peu de chose s'est fait dans ce domaine, au Canada, pour les services dentaires.

Au cours des dernières années, un grand nombre d'organisations ou de groupes de personnes ont fait des avances à des associations de dentistes ou à des dentistes individuellement pour avoir des renseignements sur la mise en oeuvre de plans de groupe pour des services dentaires. Quatre raisons motivent ces démarches:

- 1) A cause des fluctuations économiques qui se sont produites au cours de la dernière décennie, la population en général est plus en mesure de se procurer des soins dentaires.
- 2) Les Canadiens, grâce aux campagnes d'hygiène publique et à l'amélioration de la moyenne d'éducation, attachent plus d'importance aux traitements de leurs dents.
- 3) Il y a une tendance marquée vers le socialisme économique par lequel la population désire s'assurer contre les hasards de la maladie en payant une contribution fixe.

4) On peut s'assurer en groupe pour des services médicaux et hospitaliers et on désire faire de même pour les services dentaires.

Jusqu'à maintenant, les patients se sont procuré individuellement les services dentaires dont ils avaient besoin. Pour obtenir en groupe ces mêmes services, il faudra changer la procédure qui a présidé aux échanges entre traités et traitants. Pour ce faire, les deux parties devront entreprendre des négociations pour en venir à un accord. Un tel contrat servira de base aux transactions entre les "acheteurs" et les "vendeurs" de services dentaires.

Il y a une forte demande pour des contrats de ce genre et la profession doit s'y intéresser, si elle veut garder dans l'avenir la direction de ses propres services. Autrement, il est fort possible que des influences étrangères s'avisent de mettre sur pied des systèmes de corporation.

Les services de santé du Canada s'orientent sans l'ombre d'un doute vers des groupements pour ces services. Le but de cette tendance est de prodiguer plus de services pour un plus grand nombre et cette tendance est à s'établir d'une façon générale et systématique. La profession dentaire se doit de trouver des moyens pour atteindre cet objectif. Cette solution n'est-peut-être pas définitive, mais l'expérience a été tentée ailleurs avec succès; elle s'appuie sur des raisons solides. De plus, il est bon que la profession dentaire contrôle elle-même les services qu'elle prodigue à la population.

Ce projet obtiendra le succès désiré si les dentistes, avant de le mettre à exécution, consultent des experts, particulièrement dans les domaines légal et administratif et surtout tiennent compte avec discernement des expériences qui ont été tentées ailleurs.

GERARD de MONTIGNY

Nouvelles de l'association

L'Ontario amende la loi de l'assurance-hospitalisation pour y inclure les services dentaires

La Législature d'Ontario a voté la loi no. 93, le 25 mars 1959, pour amender la Loi des Hôpitaux Publics avec effet retroactif au 1er janvier 1959.

Cet amendement couvre deux items. D'abord, la définition du mot "traitement" (contenue dans la loi de 1957) est amendée pour englober les services dentaires dans les hôpitaux où de tels services sont autorisés par le conseil d'administration de ceux-ci. La section qui renferme cette spécification se lit comme suit:

"'traitement' veut dire l'entretien, la surveillance, l'examen et les traitements médicaux et le soin par des garde-malades qualifiées du patient et si les traitements dentaires sont approuvés par le conseil d'administration d'un hôpital, ce terme comprendra les examens et les traitements dentaires du patient."

Ensuite, cette nouvelle loi fournit aux hôpitaux les moyens de pourvoir à l'enseignement des étudiants dentaires. La section amendée sur ce point se lit comme suit:

"En conformité avec les ententes, déjà existantes et en accord avec les règlements des universités, tous les hôpitaux qui reçoivent des octrois provinciaux devront fournir aux étudiants en médecine et en chirurgie dentaire les disponibilités nécessaires à leur enseignement."

Cette législation veut dire un progrès notable des services dentaires puisqu'ils ont pris légalement droit de cité dans les hôpitaux de la province.

La fluoration au Canada

Plus d'un million de Canadiens boivent de l'eau fluorée. Au cours de l'année 1958, neuf municipalités comptant 68,000 personnes ont commencé à fluorer l'eau de leur aqueduc. L'eau est maintenant fluorée dans 39 municipalités desservant une population totale

d'environ 1,027,988 habitants. Aux Etats-Unis, la fluoration est en vigueur dans 1,762 villes comptant un total de 34,700,000 de citoyens.

On verra plus loin la liste des villes canadiennes qui utilisent la fluoration.

La fluoration recommandée en Suède

Le Conseil Médical Royal de Suède a recommandé l'adoption de la fluoration dans les municipalités du pays. Dans un rapport fait par le Conseil au Roi Gustave VI, on lit: "Ce Conseil est d'avis que les recherches ont montré que la fluoration de l'eau de consommation n'offre aucun danger pour la santé, même si on boit cette eau fluorée durant de longues périodes de temps."

Les Clubs Kinsmen fournissent \$12,000.00 au fonds dentaire de Springhill

Au cours d'une réunion spéciale tenue à Moncton récemment, les Clubs Kinsmen de tout le Canada ont présenté un chèque de \$12,000 au fonds dentaire de Springhill. Ce fonds est destiné à prodiguer des traitements dentaires aux enfants des victimes de l'accident de la mine à Springhill. Les dons en argent perçus par les Kinsmen après le désastre de 1956 à Springhill ont été consacrés à des traitements dentaires et la campagne de 1958 a été entreprise dans le même but. En plus des sommes amassées pour le fonds dentaire les Clubs Kinsmen des provinces maritimes ont ramassé \$55,000 pour le fonds général d'urgence de Springhill.

La Nouvelle-Ecosse organise un système de post-paiements

La province de Nouvelle-Ecosse mettra en acte le 1er juillet 1959 un système de paiements différés pour les traitements dentaires. Le docteur William Macneil, d'Halifax, est président du Conseil des Services dentaires de la Nouvelle-Ecosse, qui verra aux détails de ce système pour l'Association dentaire de la Nouvelle-Ecosse.

Le docteur Macneil a étudié à Toronto les règlements de la Canadian Dental Service Plans Inc. et il a pris les arrangements avec cet organisme pour commencer le plan de Nouvelle-Ecosse et s'occuper de la comptabilité de ce plan pour les dentistes de sa province. Le plan est semblable à ceux qui ont commencé ces derniers temps en Alberta et en Ontario et, plus tôt, en Saskatchewan.

Publicité professionnelle

Le comité des Relations extérieures de l'A.D.C. a été prié d'étudier une suggestion au sujet de la publicité professionnelle dans les programmes imprimés, les annuaires, etc. . . . On avait suggéré qu'on profite de ces annonces pour promouvoir les intérêts gé-

néraux de la profession, comme le recrutement des futurs dentistes, etc. . . .

Le comité a approuvé le principe de cette idée, après s'être consulté avec le Comité d'Etiquette professionnelle. En pratique, les dentistes, qui sont priés d'acheter une annonce dans ces programmes, devraient référer les vendeurs à leur société, qui verra alors à préparer un communiqué d'intérêt général.

Cette approbation des Comités des relations extérieures et d'étiquette professionnelle ne veut rien changer des coutumes ou des règlements qui existent dans certaines provinces ou certaines villes à ce sujet.

Bourse d'études Godsoe pour le Nouveau-Brunswick

La Société dentaire du Nouveau-Brunswick a voulu honorer le plus âgé de ses membres, le docteur Frank A. Godsoe, qui a 97 ans, en constituant une bourse annuelle de \$50.00, qui sera décernée à un étudiant méritant de l'Université de Dalhousie. Cette bourse portera le nom du docteur Godsoe.

Le docteur Godsoe qui est membre honoraire de l'Association dentaire canadienne est le seul dentiste vivant encore qui ait assisté à cette réunion, en 1902, où s'est fondée l'A.D.C.

Une compagnie d'assurance dentaire rembourse les primes payées pour les enfants de moins de deux ans

La Group Health Dental Insurance Inc., de New-York, avait annoncé au début de la présente année sa politique de n'exiger aucune prime pour les enfants de moins de deux ans. En même temps, elle remboursait les primes payées par les familles qui n'avaient pas d'enfants de plus de deux ans, mais qui avaient payé les primes de 1958 au tarif familial. Le président du G.H.D.I. a déclaré que "seulement six groupes des dix-sept comprenant environ 10,000 souscripteurs, couvrent les dépendants, incluant les enfants. A ce sujet, il a dit que les assurances dentaires "doivent suivre le modèle des assurances médicales et hospitalières: le travailleur est d'abord assuré; ensuite, à mesure que le public s'intéresse à la chose, la police d'assurance englobe ses dépendants."

Le plan du G.H.D.I. invite les parents à faire traiter régulièrement les dents de leurs enfants dès l'âge de deux ans; il est conçu de façon à absorber les frais des rares traitements que nécessitent des enfants de moins de deux ans.

L'A.D.A. nomme un directeur des relations extérieures

M. William A. Logan, de St.-Louis, vient d'être nommé directeur du Bureau des Relations extérieures de l'Association dentaire américaine.

M. Logan a occupé des postes en relations extérieures, en rédaction et dans les domaines législatifs, durant deux ans, au compte de l'Association médicale de l'Etat du Missouri. Avant cela, il avait fait du journalisme, après avoir obtenu un diplôme en économie politique et sociale à l'Université de Kansas City.

Le président-élu de l'A.D.C. contraint de démissionner

Au début d'avril, le docteur W. J. Langmaid, président-élu de l'Association, est tombé gravement malade. Réflexion faite, il a dû démissionner comme président-élu. Il regrette sincèrement d'être obligé de prendre cette décision.

Le docteur Langmaid fut membre du Conseil des Gouverneurs durant de nombreuses années et jusqu'à son élection au poste de président-élu, à la réunion générale de 1958, il avait fait partie du Comité Exécutif pendant deux ans. A la fin d'avril, il avait pu quitter l'hôpital, mais il ne pourra pas reprendre sa vie normale avant quelque temps. L'Association lui a fait parvenir ses vœux pour un rétablissement complet et hatif. L'association perd un collaborateur précieux, car, par son enthousiasme pour la profession dentaire et sa détermination à se rendre aux buts fixés, il avait fait bénéficier la dentisterie canadienne d'un travail consciencieux et sincère. On peut se rendre compte de l'esprit qui l'animait par ces lignes dans sa lettre de démission:

C'est avec le plus grand regret que je vous prie d'offrir au Conseil des Gouverneurs ma démission comme membre du Conseil du Comité Exécutif et comme président-élu.

L'avenir de ma santé est tellement douteux que je crois que je serais injuste envers l'Association en persistant à occuper mes fonctions.

Je n'oublierai jamais les amitiés que je me suis créées au cours de ces dernières années et ces amis qui donnent si généreusement de leurs loisirs au profit de notre profession.

La province de Saskatchewan fractionne l'exercice dentaire

La Loi No. 90, qui traite de la profession dentaire en Saskatchewan, a été passée à la dernière session de la Législature de cette province.

Ce projet de loi, avant qu'il ne soit soumis à la Chambre, avait été préparé avec grand soin pour répondre aux exigences du public et de la profession dentaire de Saskatchewan.

Les séances du Comité des Amendements législatifs eurent lieu les 24 et 25 mars derniers; à ce moment, l'Association des Techniciens

dentaires de la Saskatchewan faisait corps avec la profession dentaire. Par contre, plusieurs soi-disant denturistes s'opposaient au bill. Le comité des Amendements fit rapport à la Législature en suggérant que l'adoption de la loi fut remise à un an et étudiée en même temps qu'un bill présenté par les Techniciens dentaires de la Saskatchewan. Le projet de loi fut de nouveau référé au Comité pour étude. On apprit que le Comité désirait retrancher de la section des définitions les mots "changer ou réparer." Les délégués de la profession dentaire se présentèrent de nouveau devant le Comité et, en dernier ressort, acceptèrent cette soustraction. Plus tard, le Comité et la Législature, sans consulter les dentistes, firent des amendements drastiques au projet original et le votèrent dans les termes actuels.

Voici quelques extraits de cette nouvelle loi qui change l'exercice de la dentisterie en Saskatchewan.

Section 2, sous-section (5) se lisant comme suit:

le diagnostic ou le traitement de, et l'ordonnance, le traitement ou toute intervention pour la prévention, le soulagement ou la correction de, toute maladie, douleur, déficience, difformité, défaut, lésion, désordre ou état physique de, dans ou provenant de toute dent humaine, maxillaire ou structure ou tissu avoisinants ou toute blessure ci-après; et comprend aussi toute extraction de toute dent humaine ou de toute partie de celle-ci.

Les sous-sections (b) et (c) ont été complètement retranchées. Avant leur suppression, elles se lisaient comme suit:

(b) la confection, la production, la reproduction, la construction, l'ajustement, la remise, la mise en bouche, le changement ou la réparation, ou l'ordonnance ou les conseils d'utiliser les ou le, tout appareil de prothèse, pont, appareil ou chose pour les buts mentionnés dans la clause (a) ou le remplacement, l'amélioration ou aider toute dent humaine, ou la prévention, le soulagement, la correction ou l'amélioration de tout état de la cavité buccale humaine, ou pour être utilisée dans, sur ou en rapport de toute dent humaine, des maxillaires ou structure ou tissu avoisinants, ou dans le traitement de tout état ci-après; et (c) la prise ou la confection ou la consultation ou l'assistance ou tout acte pour faciliter la prise ou la confection de toute empreinte, la prise d'articulation, de modèle, ou de dessin préparatoire à, ou dans le but ou dans l'intention de la confection, la production, la reproduction, la construction, l'ajustement, la

livraison, l'assistance, le changement ou la réparation de tout appareil de prothèse, pont, devis ou autre chose.

On a l'impression que la Législature a tenté de confiner l'exercice de la dentisterie à l'obturation et à l'extraction des dents.

La section 50 se lit maintenant comme suit:

(c) pour retenir, réaliser ou espérer réaliser un gain, faire, produire, reproduire, construire, ajuster, fournir, ou donner toute pièce de prothèse, pont, appareil ou chose pour remplacer, améliorer ou prendre la place de toute dent humaine, sans d'abord obtenir d'un médecin légalement qualifié ou membre du collège en règle, un certificat au sujet de l'état de la cavité buccale de la personne pour laquelle le travail est entrepris ou à qui le dentier, le pont ou l'appareil ou toute autre chose est confectionné ou fourni.

La modification importante ici est que tout le domaine de la prothèse dentaire est ouvert à n'importe qui dans la province de Saskatchewan—heureusement, les dentistes n'en sont pas exclus!

En résumé, le sens de cette clause est celui-ci: tout le monde, le barbier, le plombier, le préposé à la livraison, le pharmacien, à condition qu'il obtienne un certificat sur l'état buccal du patient, peut s'engager dans le domaine de la prothèse dentaire.

Les clauses 51 et 52 du projet de loi, au sujet des ordonnances, ont été retranchées et un ou deux amendements mineurs de peu d'importance ont été faits.

On ne connaît pas les raisons qui ont porté les membres de la Législature à agir de la sorte. Il nous semble qu'on a ainsi rendu un bien mauvais service à la population de la Saskatchewan.

La Législature du Nouveau-Brunswick rejette un bill privé

La Législature du Nouveau-Brunswick vient de rejeter par un vote qui a divisé les partis de la Chambre un projet de loi présenté par un monsieur Joseph L. Alfred Savoie qui désirait pratiquer la dentisterie.

M. Savoie présentait ce bill privé pour être exempté de certains règlements de la loi dentaire et pouvoir exercer comme dentiste. Le requérant est un diplômé de l'Université de Genève, qui n'est pas reconnue par l'Association dentaire canadienne, ni par la Société dentaire du Nouveau-Brunswick. On avait offert à M. Savoie de compléter ses études à l'Université de Dalhousie. La Société dentaire du Nouveau-Brunswick s'opposait au bill parce qu'elle prétendait que M. Savoie n'était pas qualifié pour pratiquer. Le bill, à la demande du Comité des Corpo-

rations qui était en faveur des exceptions demandées, est devenu bill public. La Chambre a rejeté ce projet de loi par un vote où les démarcations des partis n'ont pas joué. Le même individu avait présenté un bill semblable, l'année dernière.

Recherches

(extrait du Bulletin de la Division des Recherches dentaires de la Faculté de chirurgie dentaire de l'Université de Toronto).

Les isotopes au travail

L'emploi des isotopes radioactifs dans les laboratoires de recherches signifie un progrès considérable dans l'utilisation de l'énergie atomique en temps de paix. Les guides radioactifs se prêtent admirablement bien aux recherches effectuées sur les os et les dents. Les dents, par contre, grâce à leur stabilité remarquable et à leur "irréversibilité" constituent des mediums de première valeur pour l'étude des problèmes fondamentaux du métabolisme des tissus calcifiés et des effets de la radiation.

Le personnel de la Division des Recherches dentaires, en collaboration avec les médecins de l'Hôpital pour les Enfants malades utilise des guides pour étudier le métabolisme des tissus dentaires et des structures environnantes à l'état sain et à l'état pathologique.

Le nouvel édifice de la faculté dentaire abritera de vastes locaux destinés à la recherche et équipés d'une unité d'isotopes radioactifs.

Etude sur le fluorure d'étain

Des études cliniques menées surtout à l'Université d'Indiana et au Ministère de la Santé nationale et du Bien-Être social d'Ottawa font croire que des applications topiques de fluorure d'étain sont supérieures pour prévenir la carie dentaire à l'usage des fluorures de sodium. La Division des Recherches dentaire, conjointement avec la Division des Services dentaires du Ministère de la Santé d'Ontario, se propose au cours des deux prochaines années d'établir la valeur d'une seule application de fluorure d'étain à 8% pour abaisser le taux de la carie dentaire chez les enfants d'âge pré-scolaire du Riverdale Preschool Dental Project.

L'application topique de fluorure de sodium qui nécessite quatre visites prend beaucoup de temps et c'est pour cette raison qu'on entreprend ce projet de recherches. Si grâce à une seule application de fluorure d'étain, on obtient des résultats identiques à ceux des quatre applications de fluorure de sodium, on simplifiera considérablement cette procédure préventive au bénéfice des dentistes et à celui de la population.

Prix de \$10,000. offert pour la recherche

La Fondation Créole, pour stimuler des recherches d'envergure au sujet du Vénézuéla dans les domaines des sciences naturelles, physiques et sociales vient de créer un prix qui sera décerné à l'auteur du meilleur travail de recherches portant sur une de ces disciplines et s'appliquant au Vénézuéla. Ce prix de la Fondation Créole consiste en une somme de \$10,000. et un diplôme qui sera décerné tous les deux ans à Caracas, en commençant le 17 octobre 1960. On peut soumettre les travaux jusqu'au 31 décembre de l'année qui précède immédiatement celle où on a décerné un prix.

Toute personne, nonobstant sa nationalité ou l'endroit de sa résidence, peut concourir pour ce prix: il a donc un caractère international. On peut obtenir une copie des règlements en s'adressant à l'Ambassade du Vénézuéla, The Roxborough, Ottawa, Ont.

Inscription dans les universités et les collèges canadiens

Le Bureau de la Statistique nationale rapporte qu'au premier décembre 1958 il y avait un chiffre record de 99,400 étudiants réguliers dans les universités et les collèges du Canada. Ce nombre représente une augmentation de 9.1% sur celui de l'année précédente qui était de 86,500.

Les chiffres pour les plus grandes universités sont les suivants: Université de Toronto, 12,289; Université de Montréal, 11,254; Université de Colombie britannique, 10,326; Laval, 8,360; McGill, 6,796; Université du Manitoba, 5,202; Université d'Alberta, 5,183.

Les universités des quatre provinces maritimes, de Québec, d'Alberta et de Colombie britannique reçoivent au cours de l'année courante des étudiants en nombre plus grand que jamais; l'Ontario et la Saskatchewan s'approchent du record établi au cours de l'année académique 1947-48. Les inscriptions à l'Université du Manitoba sont loin en nombre de ce qu'elles étaient en 1947-48.

Les quatre provinces de l'ouest montrent les augmentations les plus considérables sur les inscriptions de l'an dernier: 12.2%. On note des augmentations de plus de 10% dans les facultés suivantes: optométrie, enseignement, éducation physique et sanitaire, arts et sciences, sciences sociales, journalisme et pharmacie. Les inscriptions en génie n'ont augmenté que de 2%.

Les statistiques du Bureau national de la Statistique ne donnent pas de renseignements au sujet de la médecine et de la dentisterie. Cet accroissement du nombre d'étudiants est l'effet normal de l'augmentation des taux de naissance notée il y a quelques vingt ans.

Expliquez vos honoraires

L'éditorial suivant intitulé "Expliquez vos honoraires" paraissait récemment dans le

"A.M.A. News," qui est une publication de l'Association médicale américaine. Le Comité des Relations extérieures de l'A.D.C. tient à ce que ces lignes soient portées à la connaissance des membres de l'A.D.C.

"La question des honoraires, plus que toute autre, est responsable de frictions qui se produisent entre patients et médecins. Pour prévenir ces mésententes, la première chose à faire est d'expliquer les raisons qui motivent les honoraires.

Des médecins prétextent qu'ils n'ont pas le temps de discuter franchement ces questions avec leurs patients; mais cette excuse ne vaut rien. Tout patient a le droit de connaître les motifs de son traitement ou de son opération, ce en quoi ils consistent et ce qu'ils coûteront, surtout quand il s'agit de cas compliqués.

Pour les cas ordinaires, une facture mentionnant des détails succincts suffit au patient. Mais, l'état de compte de la fin du mois, même si le patient a reçu des factures, doit comprendre des détails. Souvent, les patients oublient le nombre de traitements qu'ils ont reçus durant le mois. Ainsi un état de compte qui ne mentionne que "Pour services professionnels . . . \$75.00, peut paraître élevé pour le patient. Des détails fournis sur l'état de compte suffiront généralement à prévenir cette mauvaise impression.

On peut pour le moins, si on ne donne pas de détails, indiquer au bas du compte la mention, "des détails vous seront fournis sur demande."

La secrétaire du médecin doit être mise au courant des divers items qui paraissent sur la note d'honoraires du médecin et, ainsi, elle est en mesure d'expliquer ces détails au patient, avant qu'il ne quitte le bureau.

La réaction du patient aux honoraires se base surtout sur les échanges qu'il a eu avec son médecin plutôt que par la somme elle-même des honoraires ou la qualité des traitements qu'il a reçus.

Des milliers de médecins s'en sont bien trouvés de placer dans leur salle d'attente la plaque de l'A.M.A., où on peut lire cette phrase:

"Je vous invite à demander franchement toutes les questions qui regardent mes traitements ou mes honoraires. Pour réussir, des services médicaux doivent se baser sur une compréhension et une estime mutuelles entre patients et médecins."

Cette plaque en plus de solliciter des questions de la part des patients, montre que le médecin a un désir sincère de bien les traiter. (Ces plaques peuvent être obtenues à l'Association médicale américaine au prix de \$1.00—frais de poste inclus—).

Le protocole d'un bureau de médecin devrait être organisé de façon à répondre aux questions des malades, avant même que ceux-ci ne les demandent.

Des éclaircissements au sujet des honoraires n'aideront non seulement les rapports médecins-patients, mais aussi leur perception. De bonnes relations extérieures représentent des valeurs incalculables dans tout bureau de médecin.

(Le Comité des Relations extérieures de l'A.D.C. a préparé une plaque du genre, dont les dentistes canadiens peuvent se servir. On peut s'en procurer au Secrétariat de l'A.D.C. au prix de \$2.00 chacune. Déjà des centaines de dentistes s'en sont procurés.)

Soixante-et-un pour cent d'extractions en moins

(tiré du "Dental Health Highlights" de l'Association dentaire américaine)

Des examens entrepris récemment chez les écoliers de première, troisième et septième années des écoles publiques de Philadelphie ont révélé qu'en quatre ans il y a eu une diminution de 61% dans le nombre des extractions des dents permanentes.

Selon le docteur John P. Looby, directeur des services dentaires de ces écoles, deux facteurs sont responsables de cet état de choses: (1) l'effet du programme de fluoruration de la ville, (2) la mise en acte par le Service de Santé publique, sous la direction du regretté docteur J. M. Wisan, d'une mesure qui consistait en l'obturation des surfaces occlusales de toutes les molaires permanentes dès leur éruption (odontomie prophylactique). Cette mesure fut organisée par les docteurs Looby et Wisan à la suite de recherches qui ont montré que chez les enfants, les premières molaires permanentes étaient les premières à disparaître.

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Municipalités qui utilisent la fluoration

(au 1er janvier 1959)

PROVINCE	MUNICIPALITE	DATE DU DEBUT		POPULATION DESSERVIE	
Terre-Neuve	Aucune				
Ile-du-Prince-Edouard	Aucune				
Nouvelle-Ecosse	Halifax	11 juin	1956	90,871	
	Dartmouth	3 juillet	1956	20,004	
	Kentville	16 février	1956	4,840	115,715
Nouveau-Brunswick	Aucune				
Québec	Pointe Claire	3 février	1955	15,067	
	Dorval	février	1956	14,000	
	Joliette		1957	18,168	
	Rock Island	juillet	1958	4,000	
	Pont Viau		1958	12,000	
	(comprenant aussi Duvernay, St-Vincent-de- Paul, Laval-des Rapides)				83,735
Ontario	Brantford	20 juin	1945	51,557	
	Brockville	18 février	1956	15,000	
	Deep River	9 décembre	1952	3,000	
	Fort Erie	18 janvier	1952	8,567	
	Oshawa	26 février	1953	50,136	
	Sudbury	20 août	1952	50,000	
	Thorold	12 février	1952	8,000	
	Tisdale Township	3 octobre	1955	8,000	194,260
Manitoba	Brandon	8 mars	1955	24,579	
	Portage la Prairie	10 janvier	1957	10,374	
	Winnipeg	28 décembre	1956	409,687	
	Boissevain		1957	1,100	445,740
Saskatchewan	Assiniboia	mai	1953	2,027	
	Eston	septembre	1957	1,578	
	Moose Jaw	décembre	1952	29,603	
	Saskatoon	juillet	1955	72,858	
	Swift Current	octobre	1954	10,612	
	Weyburn	mars	1955	7,684	
	Wynyard	août	1956	1,625	125,987
Alberta	Fairview	4 mars	1958	1,260	
	Red Deer	10 juin	1958	16,000	17,260
Colombie britannique	Kelowna	15 septembre	1956	10,468	
	(comprenant Glenmore)				
	Prince George	13 septembre	1956	10,563	
	Prince Rupert	1 mars	1957	10,498	
	Smithers	21 juin	1955	1,962	
	Kitimat	février	1958	11,000	
	Mesachie Lake	février	1958	800	45,291
TOTAL AU CANADA					1,027,988

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Highlights of Research in Preventive Dentistry*

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The statement was recently made by Rosebury that "dental research, particularly research in dental schools, despite its great development has not yet solved any of the problems of dental disease, and has indeed contributed little to the everyday practice of dentistry".¹ The statement is true and, in a sense, discouraging. Yet it contains within it hope for the future. Dental research today is, indeed, in a

period of great development and it seems likely that investigations now under way may lead to specific protective measures, at least against dental caries. There appears to be less hope for the early development of effective measures against periodontal disease, principally because at this stage the mechanisms involved in pathogenesis are less adequately understood than in the case of caries. The principal reason is obvious: less research has been conducted in this field. Prospects for prevention of malocclusion, the third major problem of dentistry, appear to be forlorn. On the other hand, early diag-

*Presented before the Conference Session on Preventive Dentistry, American Association of Dental Schools, Detroit, Michigan, March, 1958.

[†]Director, Forsyth Dental Infirmary; Professor of Microbiology, Harvard School of Dental Medicine.

nosis and treatment may intercept the development of malocclusions. This, according to Leavell and Clark, would be a different stage of prevention, the aim being to interrupt the natural history of the condition and to prevent it from following its course to a subsequent and more severe stage.² A number of studies have suggested that patterns of growth are established early in life and remain relatively stable. e.g. 3, 4, 5 Such findings should increase the ability of the orthodontist to predict aberrations from the normal and to institute early and simpler treatment.

This paper will deal with research relative to specific protection against disease in order that its scope may be confined within reasonable limits. By definition this will exclude early diagnosis and treatment as well as all subsequent stages of prevention in the natural history of disease. This definition will automatically place the major emphasis on prevention of dental caries. Some consideration will be given to periodontal disease, but orthodontics is excluded. Water fluoridation, the one major achievement in prevention of dental disease, will also be excluded. The facts are well known and need not be repeated here.

One of the most active and most maligned areas of dental research is the field concerned with therapeutic dentifrices. Claims by manufacturers that their particular dentifrice possesses unique properties are not new. In 1922, Livingston stated that "today the market is flooded with a variety of tooth pastes and powders, the advertisers of which all loudly assert that not only is each particular one the best, but that it has a formula scientifically based on hygienic, chemical, or bacteriological laws. One cannot but feel that the claims set forth are extravagant at the least".⁶ In this respect the situation has changed little in thirty-five years. However, in recent years considerable effort has been directed toward the development of a truly therapeutic dentifrice. The principal ingredients for which therapeutic properties have been claimed include dibasic ammonium phos-

phate and urea, chlorophyllin, penicillin and other antibiotics, stannous fluoride, and compounds classified as antienzymes. Except for stannous fluoride, these agents are useless, or reports of clinical use are conflicting (penicillin), or limited, or clinical investigations have not been conducted (chlorophyllin*).

Preliminary reports on the use of stannous fluoride in a dentifrice are of interest. In three separate studies in which stannous fluoride was combined with calcium pyrophosphate to provide a concentration of one thousand parts per million (p.p.m.) of fluoride, caries reduction at the end of one year was reported amounting to thirty-six to forty-nine per cent decayed, missing, filled (DMF) surfaces.^{7, 8, 9} In one investigation involving young adults, covering a two-year period, a thirty-four per cent reduction in DMF surfaces was reported.¹⁰ It is worth noting that in the two studies, in which a thirty-six per cent reduction in caries was reported at the end of one year and a forty-nine per cent reduction at the end of one year, the same formula was used, the children were of the same average age (ten years) and the conditions of the experiment were comparable. The substantial difference in the per cent reduction in caries attests to the caution which is necessary in assessing the results of such studies. In this regard the observation of Hein is significant, that in animal caries studies, differences between groups amounting to thirty per cent or more probably indicate real effects.¹¹ Thus the data are still insufficient to warrant drawing conclusions. However, they do encourage the hope that the use of stannous fluoride in a dentifrice may result in some modest decrease in the incidence of caries.

A large number of reports are available on the use of either sodium fluoride or stannous fluoride as solutions for topical application.¹²⁻²¹ These reports are in general agreement that a reduction can be obtained with either compound and that the use of stannous fluoride results in a greater reduction in caries than the use of sodium fluoride. Of particular interest,

*Except in relation to gingivitis.

however, is the study by Syrrist of a group of seventy-eight children in whom one upper quadrant of permanent teeth were treated seven times during a two year period with a two per cent sodium fluoride solution.²² In addition to the usual examinations they were reexamined five years after discontinuation of the treatment. At the end of the two year treatment period, the treated quadrants showed a fifty-one per cent reduction in new carious surfaces compared with untreated quadrants. However, at the end of an additional five years, the difference in the new caries between control and treated quadrants was only fifteen per cent, with a mean saving per child of less than one decayed, filled (DF) surface. Considering the time involved in providing topical fluoride treatment as against the limited reduction in caries on a long term basis, it is questionable whether the procedure is justified from an economic standpoint, even if performed by hygienists. Studies in which stannous fluoride has been used have extended over periods up to two years. It is too early to determine whether the superiority of this compound over sodium fluoride is of sufficient magnitude to warrant its widespread use for topical application.

The long-term caries study at the Vipeholm Hospital in Sweden has considerable significance for the dental clinician.^{23, 24, 25} The study was conducted using four hundred and thirty-six mentally defective subjects, permanently confined to hospital. For a five-year period, a control group of sixty males received a low carbohydrate, high fat diet and experienced carious increments of less than one surface per year on the average. Six experimental groups on the same basic diet but with various carbohydrate supplements at various periods during the five years, provided data on the effect of consumption of various foods and the effect of a variety of eating habits on the incidence of dental caries. From a clinical standpoint the most important conclusion which can be drawn from the studies is that the risk of sugar increasing caries activity is

greatest if the sugar is eaten between meals and if it is in a form which tends to be retained on the tooth surfaces. For example, consumption of twenty-four toffees between meals by a group of forty-eight males increased the increment of new carious surfaces about twelvefold over the control group. On the other hand, sucrose fed as a solution at meal times in an amount of three-hundred grams per day did not significantly increase the caries incidence above the control level. Lundquist demonstrated that there was a high correlation between the oral clearance rate of sugars and their cariogenicity.²⁶ The Vipeholm study provides direct evidence that the form in which sugar is served and the frequency with which it is consumed are more important than the quantity of sugar consumed, from the standpoint of dental caries.

An additional significant finding, however, was that carious lesions may continue to appear despite the avoidance of refined sugar and restriction of total dietary carbohydrates.

There is substantial evidence that the susceptibility of a variety of experimental animals to dental caries is influenced by their nutritional status during the period of tooth development. Sognnaes has demonstrated that rats, hamsters, and mice fed an apparently nutritionally adequate, purified, high sucrose diet through pregnancy and lactation bore offspring that were more susceptible to dental caries than animals born to mothers subsisting during pregnancy and lactation on a stock diet composed of natural food stuffs.^{27, 28} Similar findings have been reported by Mitchell and Shafer in experiments with hamsters.²⁹ More recently Shaw and Sognnaes have reported that monkeys fed the same purified diet in the laboratory during the period of tooth development, exhibited significantly higher susceptibility to dental caries than monkeys whose teeth were developed while the animals were still in the jungles of India.³⁰ Sognnaes and Shaw have found that, in the case of rats, the increase in susceptibility, resulting from the use of a purified

diet during the developmental period, can be partially obliterated by the addition to this diet of ash from the natural stock diet.³¹ They have demonstrated that this effect is not attributable to fluoride in the ash,³² and at the present time the component or components which are responsible remain unknown.

Sobel has reported the effects of a somewhat different manipulation of the diet during the time of tooth development. He found that in rodents on a high-calcium-phosphorus ratio in the diet during the period of tooth development, the mineral components in bones, enamel and dentin had a higher carbonate-phosphate ratio than normal. Conversely, a low calcium-phosphorus ratio in the diet resulted in a low carbonate-phosphate ratio in the teeth.³³ Subsequently Sobel demonstrated that cotton rats whose teeth had a high carbonate-phosphate ratio had a much higher susceptibility to caries than cotton rats whose teeth had a low carbonate-phosphate ratio.³⁴

Of particular interest in relation to Sobel's reports are the findings of Paynter and Grainger.³⁵ These workers have shown that rats maintained on a high-phosphate diet or a diet containing ten to twelve p.p.m. of fluoride in the water supply during pregnancy and lactation bore young whose molar teeth were distinctly smaller than those of controls. Furthermore, compared with a control group, the depth of the mesial fissure was less, and the angulation of the fissure sides greater in the rats born to mothers on a high-phosphate diet. This work has been extended to human populations in the finding that non-carious lower first permanent molars on the average are slightly smaller at the cervix than first molars which were carious.³⁶ The findings hold true in communities with or without fluoridated water supply.

All of these observations relating to modification of the caries susceptibility of teeth by nutritional control during the period of tooth development suggest that in the future this may be an area of major importance from a preventive standpoint.

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Interference with the processes involved in bacterial metabolism in the dental plaque is more likely to provide effective protection against the disease. Discouraging results to date have led many to discount this approach.^{9, 37} Nevertheless, the limited successes in animal studies and in human studies encourage the hope that an anti-cariogenic agent may yet be found.

One of the difficulties standing in the way is the often poor correlation between *in vitro* screening procedures and animal or clinical trials.¹¹ The approach used by Manly, in which inhibition of acid production is measured in salivary sediment collected in nylon thimbles under standardized conditions, or some comparable screening test, may prove rewarding.³⁹ It is to be expected that favorable results in the screening procedure may sometimes correlate poorly with animal or clinical trials. The screening test is an attempt to abstract important information from the clinical situation. It is not complete and it is not accurate, and that is why it is necessary ultimately to conduct a clinical trial. Yet the screening test makes it possible to examine large numbers of compounds which may be potentially useful. Its inaccuracies may result in overlooking the very compound which would solve the problem but this appears to be a hazard inherent in this type of research.

Turning to periodontal disease, the core of the problem is that knowledge of its etiology is inadequate. Fleming recently quoted a graduate student's thesis summarizing knowledge of the etiology of periodontal disease in the following words: "It would be my conclusion that periodontal disease may be due to local

or systemic factors working separately or in combination and that the necessary prerequisite for the development of periodontal disease is some factor either local or systemic that will so lower the resistance of the oral tissues as to allow the usually commensal relationships in the mouth to become pathologic.³⁴⁰ These observations may be true, but they are unsatisfactory generalizations upon which to base a search for preventive measures. Recent findings suggest that we are beginning, however, to move toward more specific understanding of the mechanisms that are involved. Highly significant correlations have been found between the levels in saliva of enzymes such as hyaluronidase,^{41, 42, 43} beta glucuronidase⁴¹ and proteases^{44, 45} and the incidence of periodontal disease. It has now been possible to produce in experimental animals mixed infections comparable to the infection of periodontal disease with specific combinations of organisms originating in periodontally involved tissues.⁴⁶ Studies of the biochemical mechanisms involved in the production of these mixed infections are now under way.

At the moment these studies do not suggest fruitful lines of investigation directed toward prevention. The possibility exists, however, that they may lead to specific immunization measures against periodontal disease. For example, it has been shown that depolymerization of ground substance by hyaluronidase permits a downgrowth of epithelium and it has been suggested that this may be a basic mechanism in deepening of the periodontal pocket.⁴⁷ Furthermore, Schultz-Hautd and Scherp have presented evidence which suggests that hyaluronidase may increase the permeability of gingival epithelium, permitting ingress of other toxic metabolites from the gingival crevice.⁴⁸ Several investigators have demonstrated relationships between occurrence of gingivitis or periodontal disease and the levels of hyaluronidase in saliva and also the levels of hyaluronidase produced by oral organisms.^{41, 42, 43} Hyaluronidases are highly antigenic; in addition,

they are non-toxic. Should hyaluronidase prove to be a key enzyme in the chain of events leading to periodontal disease, it might be possible to block this step by immunization with specific hyaluronidases from oral organisms.

These observations are highly speculative, but they demonstrate how specific knowledge concerning the mechanisms involved in the pathogenesis of periodontal disease may lead to the development of preventive measures. Conversely, generalizations about interplay of local and systemic factors, as Fleming points out,⁴⁰ have taken us exactly nowhere in a period of thirty years.

Studies of dental calculus may have an important bearing on the prevention of periodontal disease. There can be little doubt that calculus is important in the production of periodontal lesions. Indeed, King found calculus associated with eighty per cent of such lesions.⁴⁹ Careful studies have shown relatively constant relationships between the location of calculus and alveolar crest of bone, and also the bottom of the epithelial attachment.^{50, 51}

It seems unlikely that chemical methods aimed at removing calculus are likely to be satisfactory, since Hodge and Wah Leung and others have shown that human calculus, like enamel and other mineralized tissues, has a remarkably constant hydroxyapatite lattice structure.⁵²⁻⁵⁸ Thus chemical measures which would remove calculus would probably injure the enamel of teeth. Prevention of calculus formation is more hopeful. Classes of compounds which have been investigated for this purpose include mucinases,^{59, 60, 61} silicones, and lactones^{62, 63}. Results to date suggest that of these three groups, the mucinases may prove to be useful. Products which have been used appear to be mixtures of several enzymes⁵⁹. The theory of their action is based on the assumption that calcification is initiated within highly viscous deposits of mucin-like material on the teeth. The enzymes are intended to depolymerize this mucinous plaque. Initial observations which have been made suggest that this concept is worth more extensive investigation.

diet during the developmental period, can be partially obliterated by the addition to this diet of ash from the natural stock diet.³¹ They have demonstrated that this effect is not attributable to fluoride in the ash,³² and at the present time the component or components which are responsible remain unknown.

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A new magazine — The Canadian Journal of Corrections — is now being published by the Canadian Corrections Association, a branch of the Canadian Welfare Council. The magazine brings to Canadians up to date articles on subjects related to the whole field of Corrections written especially for, and in the main, by Canadians.

It is published 4 times a year and the subscription rate is \$4.00 per annum. For further information write: Miss P. Haslam, The Elizabeth Fry Society, 123 Yorkville Ave., Toronto.

Let's Get Our Teeth Into Problems of Growth!*

WILTON MARION KROGMAN, PH.D., LL.D., F.A.C.D. (HON.)

FOREWORD

As a practicing and general dentist your primary concern is with the welfare of the teeth — individual teeth first, the dentition as a whole second. You watch for cavities in the teeth which have to be filled. You are, of course, interested in preventing these cavities, so you advocate oral hygiene. But decay does occur, and you repair. In so doing you watch tooth contours in order that the fillings provide good inter-dental approximation — occlusion — permitting of adequate functional efficiency.

However, your interest goes further. You must watch order and sequence of eruption of the milk teeth and of the successional teeth. This involves the timing of exfoliation of the one (milk), replacement by the other (permanent). Now you have gone from one tooth to all the teeth. You have turned from the statics of alleviation to the dynamics of observation.

You have, in a real sense, gone from a relative simplicity to a very real complexity. In your repair you become involved in details of occlusal balance. In your observation you become involved — whether you realize it or not — in details of the processes of organic growth. Every one of you is a student of the growth and development of each child in your care. You go, literally, from tooth to tooth, from tooth to teeth, from teeth to bone, from bone, per se, to a facio-dental complex, and with this you are plunged into the dynamics of osteo-dental inter-relationships as they change, age for age, in the life of the individual child.

Knowledge of the general growth of children as it relates to the more specific area of face and teeth, will be of use to you. It may not make you a better dentist, in a technical sense, but it will make you a wiser dentist, in an over-all biologic sense. Look beyond the teeth at the *whole child* — more, the *whole growing child*!

SOME BASIC IDEAS

Physical growth is an all-inclusive term, extending from the moment of conception to the moment of death. There is no time in the ten lunar months of gestation and the seventy years of the life-span when the processes of growth and of growth-change are not operative. The present

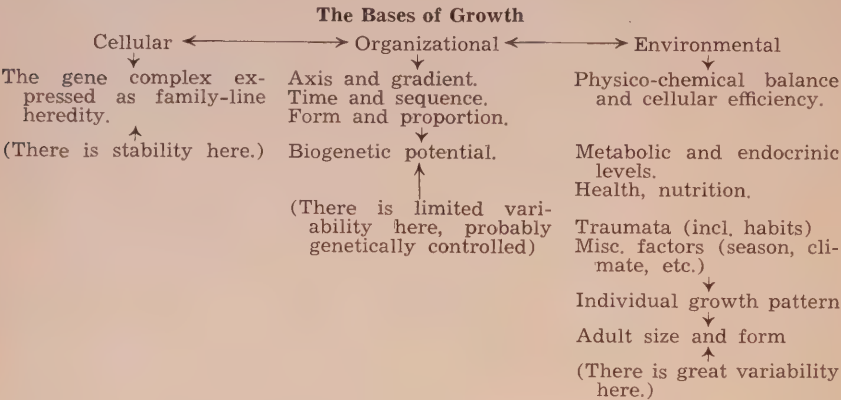
Professor, and Chairman, Physical Anthropology
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Canadian Dental Association
Montreal, Quebec, Canada
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discussion shall be limited to the period of birth to twenty years of age — the first two decades of postnatal life, the growth period par excellence. This is when you, as dentists, will be involved with growth-timing and with growth-change.

It has been said of Man that he is “fearfully and wonderfully made”. This could be paraphrased that the processes of integrative growth are fearfully and wonderfully complex. Observe, for a few moments, the following:



Here we run the gamut of what we *are*, genetically, and what we *may be*, environmentally, as growth progresses. In principle all children grow alike, following a characteristic human pattern of growth. In practice each child grows differently, following his own pattern of what he has inherited and what happens to him — a unique blend of heredity plus

environment! In the schema above the first column is our basic endowment, the second column is our embryonic and foetal growth, and the third column is our postnatal growth.

It is now time to focus upon the period of postnatal growth. It is convenient to divide this into several growth-stages, as follows:

Period	Boys	Girls
1. Infancy	Birth—1:0	Birth—1:0
Newborn	1st two weeks	1st two weeks
Infancy, per se	Up to 1:0	Up to 1:0
2. Childhood	1:0-16:0	1:0-15:0
Early	1:0- 6:0	1:0-6:0
Mid	6:0 to 9:0-10:0	6:0 to 9:0-10:0
Late	9:0-10:0 to 13:0-16:0	9:0-10:0 to 12:0-15:0
3. Puberty	ca. 13:0-14:0	ca. 12:0-13:0
4. Adolescence	13:0-14:0 to 18:0-20:0	12:0-13:0 to 18:0-20:0
5. Adulthood	18:0-20:0 plus	18:0-20:0 plus

As far as we are concerned there are two major periods of concern: 1) early childhood, the time of the deciduous dentition; 2) mid- and late childhood, the time

of the changing dentition (deciduous exfoliation, permanent eruption).

There remains but one more area of general consideration, focussing upon two

basic types of human growth: so-called *neural* and *body* patterns of growth. Each may be expressed in percentage terms, i.e., percent at any given age of the attainment of adult size (twenty years of age).

The neutral pattern centers around the central nervous system: brain, eye, cord. By the age of six years these parts are ninety-five per cent of their adult size; this means that the vault of the skull and the orbit are also ninety-five per cent of their

about twenty years. It is this lower two-thirds that houses the dentition.

The whole process of physical growth may now be summed up in three simple phrases: we grow: we grow up: we grow older. Let us look at each a bit more closely. *We grow*: every dimension of the body increases in size, i.e., this is getting bigger. *We grow up*: different areas and/or systems of the body grow at different times and at different rates, i.e., there is synchronous and integrative growth. As an example we may note that from birth to twenty years head and neck increase two-fold, trunk three-fold, arm four-fold, and leg five-fold. *We grow older*: All parts and systems of the body become progressively and cumulatively more mature. This is the march of biological time. This is the true growth-age of each individual. By studying the X-ray film of the hand we can tell exactly how each child is progressing in growth — maturity — whether he or she is a slow, average, or fast grower, or whether he or she is an early or a late maturer.

	Neural	Body
Birth	0%	0%
Two years	42	30
Four "	78	38
Six "	95	43
Eight "	98	47
Ten "	99	50
Twelve "	99	57
Fourteen years	99.5	70
Sixteen "	100	88
Eighteen "	100	97
Twenty "	100	100

adult size. The body pattern includes the following systems: skeletal, muscular, vascular, respiratory, digestive, and urinary. If in the face we put these two growth patterns together we find that the upper one-third of the face is about through growing at six years, while the lower two-thirds continues to grow until

If we put all of the foregoing together we have three ages for each child: 1) chronological age, which is the birth-day age, e.g., 7-4-48 to 7-4-58=ten years of age; 2) biological or skeletal age, which is the growth or maturational age; 3) dental or eruptive age, which is related to dental development. The latter is classified as follows:

Stage II. Period of Late Infancy.

- A. All deciduous second molars erupting or erupted, including 50% eruption of all of them or 75% of three of them.

V	IV	III	II	I	I	II	III	IV	V
V	IV	III	II	I	I	II	III	IV	V

- C. Beginning of eruption of first permanent molars, including elimination of deciduous incisors and eruption of their permanent successors.

	V	IV	III		1	1		III	IV	V	
6	V	IV	III	2	1	1	2	III	IV	V	6

Stage III. Period of Childhood.

- A. All first permanent molars erupting or erupted, including 50% eruption of all of them or 75% of three of them.

6	V	IV	III	2	1	1	2	III	IV	V	6
6	V	IV	III	2	1	1	2	III	IV	V	6

- B. Elimination of deciduous canines and molars, and acquisition of their successors.

6	5	4	3	2	1	1	2	3	4	5	6
6	5	4	3	2	1	1	2	3	4	5	6

- C. Beginning of eruption of second permanent molars.

	6	5	4	3	2	1	1	2	3	4	5	6	
7	6	5	4	3	2	1	1	2	3	4	5	6	7

Stage IV. Period of Circum-pubescence.

- A. All permanent second molars erupting or erupted, including 50% eruption of all of them or 75% of three of them.

7	6	5	4	3	2	1	1	2	3	4	5	6	7
7	6	5	4	3	2	1	1	2	3	4	5	6	7

- C. Beginning of eruption of third permanent molars

	7	6	5	4	3	2	1	1	2	3	4	5	6	7	
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8

Stage V. Period of Post-pubescence ("Adolescence") to Maturity.

- A. Complete eruption of all third permanent molars.

8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	8
8	7	6	5	4	3	2	1	1	2	3	4	5	6	7	P

Dental Age Data for White Children

Stage	Male			Female		
	Range	Av.	S.D.	Range	Av.	S.D.
II A (H)	—	5.33	0.94	—	5.36	1.08
II C (H)	—	6.67	0.60	—	6.63	0.69
III A (G.C.)	8-11 yrs.	8.74	1.03	8-12 yrs.	8.67	0.88
III B (G.C.)	8-13 "	10.19	1.35	8-13 "	10.04	1.24
III C (G.C.)	10-13 "	11.68	0.91	10-13 "	11.64	0.89
IV A (G.C.)	12-14 "	12.64	0.59	11-13 "	12.50	0.66
IV C (H)	—	20.69	2.01	—	20.35	1.85
V A (H)	—	23.02	2.41	—	21.10	2.18

(The H refers to the values of Hellman, the G.C. to the values developed at our Growth Center)

The foregoing may be assigned definite average age values. In this tabulation the S.D. refers to the normal range of variation. For example, III A males with an average of 8.74 years, S.D. 1.03 years,

means that the normal range, for two of three children, is between 8.74-1.03 years and 8.74+1.03 years, or between 7.71 years and 9.77 years.

THE INTERPRETATION OF GENERAL GROWTH

There are two main measures of general physical growth: height and weight. We know more about these two than any other dimensions of the human body. We know about them in terms of acceleration — fast — and of deceleration — slow. Stature, in detail, and weight, in general, follow the body curve. This means great acceleration in infancy and early childhood, deceleration in mid childhood, and acceleration in late childhood. This latter acceleration is a very important one, for it is related to the terminal phases of the period of the changing dentition, during which very important tooth-and-bone changes are taking place. Specifically this is when permanent cuspids and second permanent molars are erupting, and when body and ascending ramus of the mandible are growing more rapidly.

Now let me give you a sort of a “package-deal” — a composite of growth integration: 1) acceleration of statural growth (which is really long-bone or skeletal growth) is highly correlated with maturation age; 2) this means that a “fast grower” is also an “early maturer”, and vice versa; 3) as a result a fast grower and an early maturer generally will show earlier facio-dental growth, as manifested in increase in size of mandibular corpus and ramus; 4) this whole complex is

known as the circum-pubertal acceleration (often termed “pubertal spurt” in growth). This means that if you know the pattern of general bodily growth you can *predict* the pattern (growth-time) of facial growth! It seems to work something like this: at or just before puberty the long bones of the skeleton begin to grow faster (increase in length, hence add to total stature); in obedience to this general growth impulse the facial skeleton soon joins in, to have its own speed-up; however, there is a time-lag of about nine months to one year, i.e., mandible and maxilla add to their size about a year *after* the long bones begin to add to their size. Here is an example. Let us say we have been following the growth progress of a boy, from about eight years and on; at about 11 years and one-half (11:6) his height curve shows a “spurt” — his pre-pubertal acceleration; you can bet that about 12:3-12:6 the bones of his jaws will begin their “spurt”; true, absolute gains in size will not be as great in mandible as in leg bones, but relative increase will be about the same, i.e., *amounts* will differ, but *rates* will be more nearly alike.

Before proceeding to a more detailed study of facial growth I'd like to present data on the eruption of the deciduous teeth (after Meredith) and on the permanent teeth (after Hurme).

Deciduous Tooth Eruption in Months and Years

Order	Average Eruption			
	7½ Months	1 Year	2 Years	3 Years
Lower central incisor	+	+	+	+
Upper central incisor		+	+	+
Upper lateral incisor		+	+	+
Lower lateral incisor			+	+
Upper, lower first molar			+	+
Canine			+	+
Lower second molar				+
Upper second molar				+
	—	—	—	—
	2	6	16	20

Permanent Tooth Eruption in Years

	Male			Female		
	Early	Average	Late	Early	Average	Late
Maxillary Teeth						M
Central incisor	6.67	7.47	8.25	6.38	7.20	8.00
Lateral incisor	7.67	8.67	9.67	7.21	8.20	9.17
Canine	10.33	11.69	13.08	9.63	10.98	12.33
First premolar	8.92	10.40	11.88	8.58	10.03	11.50
Second premolar	9.63	11.18	12.75	9.33	10.88	12.46
First molar	5.58	6.40	7.21	5.42	6.22	7.00
Second molar	11.33	12.68	14.04	10.92	12.27	13.63
Mandibular Teeth						
Central incisor	5.75	6.54	7.33	5.50	6.26	7.04
Lateral incisor	6.83	7.70	8.58	6.46	7.34	8.21
Canine	9.50	10.79	12.08	8.58	9.86	11.13
First premolar	9.33	10.82	12.29	8.71	10.18	11.67
Second premolar	9.79	11.47	13.17	9.21	10.89	12.58
First molar	5.42	6.21	7.00	5.13	5.94	6.75
Second molar	10.75	12.12	13.50	10.29	11.66	13.00
	Male			Female		

*Early, Average, Late are mean $\pm$ one standard deviation.

THE GROWTH OF THE FACE

I shall limit myself here to but two methods of studying facial growth: 1) cephalometric, the direct measurement of the living head and face; 2) roentgenographic cephalometric, the measurement of tracings of X-ray films of the living head and face (usually lateral films, the postero-anterior or "facial" films are coming into their own).

Cephalometry takes advantage of the

fact that head and face (as is true of the human body generally) may be measured in three planes of space: 1) *heights*, which are vertical dimensions; 2) *breadths*, which are transverse dimensions; and 3) *depths*, which are anteroposterior or sagittal dimensions. The three sets of dimensions are each measured at right angles to the other two. If we consider grouped measurements—breadths, heights, depths—during postnatal growth we come to a very fascinating picture:

Group	Percentage of Growth Attained at Birth	Percentage of Growth Achieved Postnatally
Breadths	55-60%	40-50%
Heights	40-45%	55-60%
Depths	30-35%	65-70%

Look at these figures a moment and consider their import. *Before* we are born breadths have grown the most, heights next, depths least. The newborn face is relatively broad, low, and retrusive. *After* we are born depths grow the most, heights next, breadths least. The adult face has grown forward — it is now straight or orthognathous; it ends up as moderately broad, high, and non-retrusive. It is very

important to note that the forward-and-downward trajectory of growth is a major postnatal achievement. We get vertical dimension, we get depth dimension, for developing and erupting teeth and for growing supporting bony framework.

Here is another useful wrap-up: the timing, in dental terms, of growth in the three major groups of facial dimensions:

Time	Depth		Breadth		Height
1. From birth to 3 yrs. (for decid. dentition)	Greatest increase		Moderate increase		Slight increase
2. Up to 6 yrs. (for M1, I1-2)	Moderate	→	Moderate	→	Moderate
		(all mod. in order D, B, H)			
3. Up to 9-10 yrs. (completion I1-2, eruption Pm1-2)	Slight to moderate		Moderate	↔	Moderate
				(B and H equal)	
4. Up to ca. 12 yrs. (eruption C, M2)	Greatest increase		Moderate	↔	Moderate
				(B and H equal)	
5. Up to ca. 18 yrs. (eruption M3).	Moderate		Slight to moderate	←	Moderate to slight
				(H greater than B)	

Roentgenographic cephalometry is really an outgrowth of cephalometry. Both permit of serial or follow-up studies of the facio-dental growth in the individual child. Both permit of standardization of method of measurement. Roentgenographic cephalometry goes "deeper", as it were, than cephalometry. Via the X-ray film cranial base, mid-sagittal bony details, etc., can be added to the peripherally placed details of profile, both bony and soft tissue. Details of roentgenographic cephalometry have recently been summarized by Krogman and Sassouni. Suffice it to say that in roentgenographic cephalometry we have a tool that is precise to the point of standardization of technique. Analysis of the X-ray film tracing permits of a careful and useful appraisal of cephalo-facio-dental relationships. Especially is this important in orthodontic research and practice.

CONCLUSION

A knowledge of the growth and development of the whole child — amounts of growth, rate of growth, timing of growth — must enable the dentist to approach his problems with a broader-based biological viewpoint. The teeth are part of the growth process; therefore, let's get our teeth, both figuratively and literally, into problems of growth!

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The General Practitioner and the Six-year-old Child —

A Responsibility and a Challenge

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It must be abundantly clear to the vast majority of general practitioners in Dentistry that the present clinical approach to the broad base of dental disease leaves much to be desired. Moreover, there is not likely to be a simple solution developed in the near future. Increasingly, the glut of dental degeneration compounds. Why? The concept of preventive dentistry is, of course, well established. Some fundamental aspects of this approach, however, may have been overlooked during the past decade of radical and substantial technical changes. In this latter regard we must readily admit to revolutionary and most welcome progress; with reference to children's procedures the gain has been chiefly in the field of fast and vibrationless cutting instruments. Another equally successful advance has been related to applied drug therapy, particularly in the meprobamate, analgesic, hypnotic and anti-biotic groups. Psychologically we might readily appreciate that, in the stampede for advanced technical applications in our profession, some aspects of preventive criteria have been relatively ignored.

This phase of our dental practice is confined largely to younger children. Moreover, the sum total of dental prevention progress in any community is substantially representative of the efforts in this direction by the communities' general

practitioners. This last statement is not meant to depreciate in the slightest the fine contribution of the specialists — pedodontics, orthodontics and periodontics. However, we must be realistic. Pedodontists are limited in numbers and care for a relatively small percentage of younger children while the Orthodontist seldom sees his cases until functional as well as aesthetic changes are well advanced. The Periodontist rarely enters the picture during the earlier stages of child development. Elementary school clinics and surveys (when available) are successful to a varying degree. Frequently they fall short of impressing both parent and child because they are designed primarily for a group approach. Individual contact with specific recommendations based on a complete diagnosis is not a practicable approach in most school systems.

The general practitioner's role in introducing the complete story of dental health for children is a critical one. We are not concerned at this stage with child management or clinical operative techniques. This is a simple question of transferring relevant and factual information to (a) the child and (b) the parents of the child. How this is done and how this information is accepted by the recipients will undoubtedly influence to a great extent the future prevalence of dental lesions.

This situation recalls the plight of the cymbal player whose role in the orchestration was one explosive peal at the finale. As the maestro gave him the nod the wide-eyed percussionist's arms swooped from the classic position. He missed. We should be mindful that frequently we have only one solid opportunity to establish the preventive story. In this respect, we often fail to recognize the advantageous wedge for the education of both parents and child which exists at the Kindergarten and Grade One levels.

Consider the following:

1. Intellectually, the child is receptive to simplified information and explanation. Digital skill is well-developed and the imitation of demonstrated techniques such as tooth-brushing is easily accomplished.

2. The child has entered a new social community (the school); certainly he has conformed somewhat to a discipline which demands cooperation.

3. The six-year-old takes great pride in accomplishment and pleasing others. He wants — in fact needs — a sense of responsibility but he requires leadership (in this case the dentist or a member of his staff) in spelling out this responsibility.

4. The parent is vitally concerned with the eruption of new teeth. Certainly the appearance of the first permanent central incisor is awaited with considerable anticipation.

5. Tangible evidence of dental breakdown is now apparent. Small interproximal areas of decay (possibly in existence since three years of age) are clearly visible. Frequently erupted first permanent molars demonstrate the morphological phenomenon of deep occlusal grooves and their significance in caries. Size disharmonies between permanent anterior dentition and their deciduous predecessors are readily seen clinically or in radiographs and offer an entrée into the field of interceptive orthodontics. Demonstrable malocclusion provides a "de facto" illustration of potential orthodontic and periodontal difficulties. With a little imagination it is possible to comment

briefly on the caries, orthodontic and periodontic incipencies which may occur at an early age. More important this may be done with specific reference to the child under consideration.

6. The parent is impressed by the potential dollar savings offered by a preventive program. The general economic squeeze following the child's entrance into elementary school is being felt. Suggestions designed to relieve the future financial burden are usually well received and efforts implemented along these lines. The carrot and stick of prevention will often gain impetus because of the alternative of economic sacrifice.

From a preventive point of view, then, the child of six and his parents assume the proverbial role of "clay pigeons". Unfortunately, in many instances we do not exploit this opportunity. Suggestively, there are two basic reasons for this.

1. Many general practitioners are either unenthusiastic or cynical on the potentialities of office education. To many it is a "waste of time."

2. Although casual recognition is paid to some aspects of the preventive picture (invariably the subject is caries) little if any time is reserved in the child's appointment for serious accomplishment on the subject.

Neither approach need be valid. Fundamentally, the general practitioner should adopt an attitude which allows a future projection of the existing clinical situation. What is our present state of dental lesions going to be like in fifteen years? Without such an approach the entire perspective of prevention is meaningless.

It is possible to organize an adequate prevention program on the basis of two appointments. The first would be an examination appointment with adequate time and care taken to utilize all diagnostic aids that are relevant to a particular case. Since the general practitioner is understandably reluctant to keep two charting systems — one for children and one for adults — it is important to com-

bine the requisites of each. Apart from the obvious inclusion of deciduous dentition the chart should have sufficient space for notations and comments. In order to expedite the entire preventive procedure, the dental assistant should be trained to initiate the introductory and administrative phases of the examination appointment. She should also request that the parent complete a record* of the child's normal diet (specific foods and amounts are essential) for a one-week period. A considerable amount of time has been wasted in discussing diets on a generalized and abstract basis. In order to give specific diet recommendations it is necessary that the dentist have specific data. It is important in the overall efficiency of the prevention program that discussion be kept to a minimum at this appointment. Apart from other considerations which would favour this approach, the examination of the child should be conducted without the presence of the parent. The dental assistant should be able to handle questions of a generalized nature and specific queries resolve when the parent is assured that *all* aspects of the child's oral condition will be covered *completely* and any outstanding questions will be *fully* reviewed. The emphasis should be on the *italicized* words since we must be careful not to abort the enthusiasm of the parent or convey an attitude of indifference on the part of the dentist or his assistant.

The second appointment may be limited to consultation or may be combined with some clinical procedures. It is seldom necessary with proper organization to exceed thirty minutes in the consultation portion. The presentation of the diagnostic results to the parent should be a deliberate and imaginative procedure. Generalizations should be avoided if possible and the maximum use made of visual aids for explanation. It may be readily appreciated that some forms of treatment (interceptive orthodontics, occlusal equilibra-

tion, topical application of stannous fluoride), follow very naturally from the preamble of preventive information. One should be careful to avoid "selling" treatment. The facts should speak volumes but any decisions regarding treatment are left entirely to the parent. Financial arrangements are covered in this appointment for any treatment accepted by the parent.

Earlier we have referred briefly to the economic advantages to the parents of a selective preventive program for the child. This is by no means a one-way street; the dentist benefits in a very direct and practical way:

1. Organizationally, the preventive procedure becomes a standardized approach and develops into a habitual experience with increasing efficiency for the dentist and his staff.

2. Time-consuming reversions to unanswered questions on the part of the parents at succeeding appointments is usually avoided by a complete coverage of the broad range of existing and potential problems.

3. The acceptance of treatment and the cooperation of the parent during treatment is usually enhanced; unquestionably there is an increase in the general appreciation for services rendered.

4. The minimal time factor allocated for the first two appointments allows a fair and commensurate fee to be charged. The importance of this fact is obvious: the dentist should not be required to donate his time for this important service.

5. Recall appointments are usually kept promptly and without the reluctance exhibited in many instances where parents have been poorly briefed on the advantages of regular examination.

SUMMARY

1. In relationship to technical accomplishments preventive dental measures have lagged considerably.

2. The six-year-old child presents an opportunity for the general practitioner to initiate an effective preventive program in the office.

*"Dietary Record" sheets are available from the University of Toronto Press, Toronto.

3. Organization is the key to successful and efficient office presentations.

4. A commonly surmised economic penalty to the practitioner should be non-existent.

CONCLUSION

Although it is true that the dental profession does not possess a panacea for the widespread prevalence of dental disease we should vigorously adopt any measure which will incorporate the axiom of prevention. In the preceding paragraphs we have attempted to develop only one approach to the problem. The writer is hopeful that, within a few years the adjuncts to contemporary preventive concepts will be numerous and substantial.

In the meantime much can be done with intelligent implementation of existing principles.

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Rheumatic Fever Following Mass Exodontia:*

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INTRODUCTION

Considerable knowledge about the pathogenesis of rheumatic fever has accrued in the past twenty-five years. There remain, however, many facets in the development of this disease which are not clear. Much has been written about the allergic nature of rheumatic fever, comparing it to asthma, hay fever and urticaria except that the sensitivity in the latter is to proteins and in the former it

is to bacteria, particularly streptococci. The understanding of some of the manifestations of the disease has been aided by this conception. Levine¹ postulates that this can explain why joints may swell in response to a sore throat without the presence of bacteria in the joints. Under such circumstances the skin or joints may respond to infection in distant parts of the body (e.g. the tonsils, teeth or sinuses) because of local change in sensitivity¹.

This concept of altered reactivity of the host — a hypersensitivity reaction — to an antigenic substance or substances is not

*This paper accepted for publication in *The Medical Services Journal*.

new. Aikawa² stated in 1954 that this hypothesis was originally based on similarities noted between experimental serum sickness and clinical rheumatic fever, and that subsequent studies showed that infection with hemolytic streptococcus proceeds the development of acute rheumatic fever.

The clinical syndrome which is recognized as rheumatic fever is now generally accepted to be a complication of infection with Group A streptococcus. The pathogenesis of this complication is as yet unknown. The disease remains diagnostically a clinical syndrome. There is no specific laboratory determination by which it may be recognized. It is becoming increasingly evident, however, that the proper treatment and control of Group A streptococcal infections will reduce the incidence, morbidity and mortality of rheumatic fever. Control studies have shown that prompt and adequate penicillin treatment of streptococcal infections will prevent initial attacks of rheumatic fever³. Large scale studies conducted at Francis E. Warren Air Force Base^{3, 4} have firmly established defined chemotherapeutic principles upon which such prevention has been based. Recently in a Symposium on Rheumatic Fever, Wood has detailed procedures currently recommended by the American Heart Association for prevention of Rheumatic Fever⁵.

In discussing the etiology of rheumatic fever Boyd points out that in man the focus of infection is probably in the mouth and nasopharynx (teeth, tonsils, nasal sinuses). Levine has a similar contention¹. White⁷ states that the faucial tonsils have been considered to be the chief portal of entry, partly because acute infection frequently ushers in acute rheumatic fever and partly because endocarditis may follow tonsillitis directly without rheumatic symptoms. He goes on to state that other lymphoid tissue in the nasopharynx, the gastro-intestinal tract and foci of infection in the sinuses and middle ear have not been ruled out as possible sources of "rheumatic" heart disease. Anderson⁸ writes of dental focus of infection being

implicated in the production of endocarditis, glomerulonephritis, pyelitis and iritis. Recent research has shown significant percentages of organisms in infected root canals. Certain organisms showed up in substantially increased percentages when cultured in trypticase soy broth in 0.1% agar: Hemolytic streptococci 35% compared with 9% in dextrose; *Staphylococcus albus* 54% compared with 18%; and *Lacto bacillus acidophilus* 30% compared with 7%⁹. It would not be unreasonable, therefore, to assume a dental focus of infection producing hemolytic streptococcus (Lancefield, Group A), but a detailed review of the literature fails to reveal any definite relationship between exodontia and rheumatic fever. In a number of cases of rheumatic fever, however, discontinuance of treatment when the disease process seems quiescent is followed by an apparent recrudescence. Holt¹⁰ writes of this rebound phenomenon in his study of 110 cases of rheumatic fever admitted to hospital between January 1949 and December 1955, and illustrates four cases of sepsis out of 34 cases exhibiting the rebound phenomenon. Two of the four cases of sepsis were dental abscesses.

The extraction of teeth then is a matter for serious consideration, not only from the cosmetic point of view and because mastication is impaired, but one must consider shock as well as the opening up of a fresh area for the absorption of pathogenic bacteria or their toxins involved in the removal of infected teeth. This is particularly pertinent in the aged, the debilitated or in the presence of acute infection.

Recently, Laskin¹¹ in discussing oral surgery complications, suggests, and rightly so, that antibiotics have been over-used pre-operatively. He contends that they are indicated only in cases of rheumatic fever, valvular heart disease, diabetes mellitus, glomerulonephritis and septic arthritis. To this list of indications it is suggested be added all cases involving mass exodontia in children, adolescents, and young adults who present for complete or multiple extractions.

Surveys in recent years show a variable attack rate of rheumatic fever among school children and adolescents with figures ranging in some areas from a low of one per 1000 up to as high as 4%. Coburn¹² reports that there were at least a million cases of streptococcal sore throat in United States Naval personnel during World War II, and that 40,000 cases of rheumatic fever with or without sequelae resulted. Thus the rheumatic fever attack rate was 4% for these young men during that period.

The following history strongly suggests that no matter what the statistical incidence of developing acute rheumatic fever might be, pre-operative antibiotic prophylaxis is indicated, if it will prevent or abort even one case of rheumatic fever.

CASE REPORT

This 19-year-old, unmarried white Canadian male soldier, reported to the dental clinic with rampant caries and mass exodontia was indicated. His oral condition was the usual picture of food encrusted missing and decayed teeth seen in the neglected mouth. He did not have necrotic gingivitis, or other active infection on oral examination. The roentgenographic examination was not specific with respect to periapical infections, cysts or granulomas. He was admitted to hospital on 4 Mar. '58. Pre-operative examination revealed normal heart sounds. No cardiac murmurs were heard. The B/P was 125/70. The normal pre-operative mouthwashes and brushings were carried out under the supervision of the Ward Nursing Sister. His teeth, with the exception of the maxillary third molars were extracted under general anaesthesia on 5 Mar. '58. Post-operatively, his temperature and sedimentation rate remained within normal limits. He was discharged from hospital on the fifth post-operative day after a normal recovery. On the evening of the same day he noted the onset of a mild sore throat for which he used aspirin gargles but he did not seek medical aid. During the next week he became

aware of gradually increasing fatigability and on the twelfth post-operative day he was re-admitted to hospital with fatigue, fever and a painful right knee of one day's duration.

On admission he was obviously ill, and pallor was evident. The temperature (oral) was 99.6 deg. F. Examination of the ears, nose and throat was not remarkable. There was no lymphadenopathy. Funduscopic examination revealed normal retinæ. The oral cavity was not remarkable and the mucoperiosteum appeared to be healing satisfactorily. The thyroid gland was not palpable and the lungs were clinically and radiologically clear. The heart was not enlarged and no cardiac murmurs were elicited. The blood pressure was 112/64 and the pulse was 96 per minute, regular in time and force. The abdomen, the genitalia and the central nervous system was not remarkable. The right knee was hyperaemic, swollen, hot and exquisitely tender on active and passive movements. Laboratory data on admission of ESR 93 mm/hr, WBC 12,150 (82% polymorphs, 16% lymphocytes, 2% monocytes). The Hgb was 14.3 Gms%. The tentative diagnosis on admission was Acute Rheumatic Fever.

His past health revealed the usual childhood infectious illnesses; measles, varicella, pertussis, tonsillitis. He denied a past history of scarlet fever, rheumatic fever, jaundice, pneumonia and pleurisy. He was emphatic in his denial with respect to "rheumatism" and "growing pains". He had a tonsillectomy several years prior to the onset of the present illness.

The family history was not contributory and none of his siblings had scarlet fever or rheumatic fever.

Treatment consisted of strict bed rest, high caloric diet, procaine penicillin 600,000 units intramuscularly twice daily and salicylates up to 1 Gram per pound of body weight daily.

While in hospital his sedimentation rate and fever gradually returned to within the

normal range. Initial antistreptolysin titre determinations was 125 AST units, but later determinations showed a rising titre up to 275 AST units. The "C" Reactive Protein remained negative on several determinations. Serial electrocardiograms were considered within normal limits.

His joint symptoms subsided within 72 hours after the institution of therapy and on the fourth day after admission, he developed a Grade II systolic apical (mitral) murmur. Subjective improvement was a constant feature but his mitral systolic murmur persisted throughout the acute phase of the illness and throughout the convalescent period. He was discharged to convalescent leave on the thirty-first hospital day. The final diagnosis was Acute Rheumatic Fever.

The patient was reviewed at monthly intervals as an outpatient, having been placed on daily prophylactic oral penicillin (0.5 Gms daily — buffered penicillin G) according to the accepted standard¹³. His joint symptoms remained quiescent, and his hemograms were within normal limits. The mitral systolic murmur was still present four months after onset.

Sixteen weeks later as this soldier was to be released from military service, the remaining two maxillary third molars were removed. It was considered preferable to sacrifice the full maturity of the maxillary tuberosities at this time while the patient was conscientiously following the prophylactic regime outlined. It is well known that once a patient has suffered an attack of rheumatic fever, subsequent attacks are more prone to follow streptococcal re-infections. The possibility of his growing careless with the prophylactic penicillin had to be considered. Stollerman¹⁴ has shown that patients who suffered recurrences while receiving daily oral prophylactic therapy admitted that there were frequent breaks in the regimen because of forgetfulness.

On discharge from military service a final examination revealed no evidence of recrudescence and his murmur presented with the same auscultatory findings.

DISCUSSION

This patient apparently suffered his initial attack of acute rheumatic fever with arthritic and myocardial manifestations of the disease following mass exodontia.

Elghammer¹⁵ re-emphasizes that according to our present concept, rheumatic fever is preceded by a variety of predisposing factors together with hemolytic streptococcal infections and that these factors are not always evident and that the disease often makes its appearance in a disturbingly insidious and vague fashion. He, along with other writers^{16, 17} agree that the latest period from the onset of the sore throat to the development of rheumatic manifestations varied from 9 to 30 days. We contend that our case meets this criterion. Levine¹ states that the primary cause generally is a streptococcus infection (i.e., sore throat) but it may be an ordinary surgical procedure, the injection of a foreign protein, a chilling or an exposure. It should be noted that the case reported in this paper had an ordinary surgical procedure (i.e., mass exodontia). Bland¹⁸ reports that it has been repeatedly shown that the most frequent event occurring prior to or concurrently with the onset of rheumatic fever is streptococcal infection of the oropharynx. Occasionally, however, other nonspecific episodes, may apparently act in a similar fashion, especially with reference to recrudescences of the disease, and he relates a series of 242 patients with rheumatic fever in which the following events prior to the onset of rheumatic fever are recorded; namely: sore throat (65 instances), injury (10), exposure (5), malaria (3), acute gastroenteritis (2), phlebitis (1) and pneumonia (1). Surveys carried out over the years would seem to indicate, then, that some cases of acute rheumatic fever are indeed preceded by unusual circumstances. In their review of "Rheumatism and Arthritis", Robinson et al¹⁹ report of 542 cases of rheumatic fever studied, and precipitating factors other than hemolytic streptococcus were implicated in 55 cases. These

factors included fractures, burns, skin rashes and other infections. They did not clarify what was meant by other infections, but it is not unreasonable to assume that infections of the oral cavity could well be involved.

It is a well-established fact that the incidence of rheumatic fever is lowered by treatment of streptococcal infections as well as by their prevention. In a carefully controlled study of a military population, Rammelkamp and co-workers²⁰ found that the treatment of streptococcal upper respiratory tract infections with penicillin reduced the attack rate of rheumatic fever by 96%. In another study, Rammelkamp et al.²¹ reviewed 798 patients whose streptococcal disease was treated with penicillin and only two acquired definite acute rheumatic fever whereas in a control group of 804 untreated subjects, the disease developed in 17. Mortimer and his co-workers²², conducting an investigation under the sponsorship of the Commission on Streptococcal Diseases, Armed Forces Epidemiological Board, Office of the Surgeon General, United States Army, postulate that rheumatic valvulitis is modified by the treatment of acute rheumatic fever with antibiotics, and they believe that the treatment of the original streptococcal infection with the same antibacterial agents will prevent rheumatic valvulitis as well as the symptoms of acute rheumatic fever.

Recently, Bywaters²³ writing in the Practitioner recommends the use of immediate and adequate bacteriocidal penicillin in anyone giving a family history of rheumatic fever or rheumatic heart disease, who is mixing for the first time with large numbers of other young adults (as at school or at training camp) if prevention of first attacks or rheumatic fever are to be obtained.

CONCLUSION

It is our contention that greater possibility exists for invasion by Group A streptococci following mass extractions.

At the best of times this organism is a normal inhabitant of the human oropharynx. Adequate treatment of acute hemolytic streptococcal infections with penicillin eradicates the infectious agent from the oropharyngeal tissues, lessens the magnitude of the antibody response, and prevents the development of rheumatic fever, the prophylactic attack being directed toward the prevention of cardiac damage. If prevention of first attacks of rheumatic fever are to be obtained it would seem logical and indicated that "umbrella antibiotic therapy" be initiated for full mouth extractions in the younger age group (adolescents) presenting with the neglected mouth as demonstrated in this case.

SUMMARY

1. A case of acute rheumatic fever developing in an adolescent male and following mass exodontia has been reported. The literature has been reviewed in an attempt to find possible correlation between dental focus of infection and the development of acute rheumatic fever. Some of the possible mechanisms of this clinical syndrome have been presented.

2. It is suggested that all cases of mass exodontia in children, adolescents and young adults receive pre-operative "Umbrella antibiotic prophylaxis".

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No. 7 Dental Clinic,
Kingston Military Hospital.

REPORTS

A Report Submitted to the College of Dental Surgeons of the Province of Quebec

Dear Mr. President,

May I submit the following report as representative of yourself and the Board to the 15th Australian Dental Congress in Adelaide February 22-27, 1959.

This Congress was preceded by the World Health Organization Dental Seminar with representatives from 25 countries, most of whom stayed for the congress. On your behalf and as the only Canadian dentist in attendance, I wel-

came many of the gentlemen to visit the Province of Quebec and our two Dental Colleges, whenever they might have occasion to come to North America. I paid particular attention to representatives from Fiji, Indonesia, New Zealand, Australia, Ceylon, India, Pakistan, Philippines, Thailand, Vietnam and Singapore (Straits Settlements).

My talk on your behalf was delivered at Vancouver, B.C., in New Zealand at the University of Otago Dental School, in Adelaide to the 15th Australian Dental Congress as well as the Australian Orthodontic Society, also at the University of Witwatersrand Dental Faculty in Johannesburg, South Africa. Always I was received with the greatest hospitality as your representative and was very proud to note in what high esteem we Canadians are held by citizens of other countries.

Dentists attending the W.H.O. Dental Seminar were unanimous in condemning excessive eating of lollipops, chocolates, biscuits, cakes and too much undiluted sugar. It was noted that by the time the average Australian child leaves primary school, half of his second teeth are decayed, missing or filled and that this could be halved by correct diet or hygiene methods, and halved again if fluorine were added to water supplies. By the time average Australians or New Zealanders reach 40, fifty per cent have full dentures. I did not offer any statistics on children in Quebec.

In New Zealand several dentists said they would be willing at any time to have a restoration performed by one of the trained dental nurses, but they also in-

formed me that these girls were selected from applicants with a very high standard of education, mechanical aptitude, social and moral standards. It was very easy because of the geographical situation in New Zealand to see that their dental efforts were carried out properly.

Cities are few and small in number. The dentists seem to have no complaint at present with the assistance being given them by these girls, but remarked that we would never have success with this system in North America; because of the population and geographical set up it would be impossible to properly police the situation. None of the dentists I met were pleased about the dental plans under State control which involved no payment of any kind directly to the dentists by the patient. They felt that the public then had the idea that their teeth were the dentists responsibility and not their own. In South Africa all dental and medical services are free to non Europeans, but the white people must and do pay for their own treatment. I was particularly impressed with the standard of dentistry in South Africa at the undergraduate level. There is of course an unlimited amount of clinical material. Their teachers are trained either in North America or Europe or at their own Universities.

In conclusion of this very brief report may I say that it was a pleasure to act as your representative and that I am sure many dentists of many countries are aware of the Province of Quebec and its two fine Dental Faculties.

HOWARD OLIVER, DDS

Problems in communication have necessitated delaying the publishing of the series "Preventive Orthodontics" by T. J. Hackie.

CLINICAL ORTHODONTICS

CLAUDE BARIL, B.A., D.D.S., *Montreal, Canada*

I recently had the occasion to review many European publications dealing with the treatment of malocclusions employing removable appliances, which seems to be the appliance therapy of choice in those countries. My interest in this was stimulated through my association with two European Orthodontists with whom I treated several cases employing their methods. I was singularly surprised by the results with which they seem to be satisfied.

In this country, their completed case records left much to be desired, not only in the eyes of our well-trained Dentists, but more importantly in the eyes of our patients and/or parents.

In Canada, we are trying to raise the level of Dentistry and it seems to me that Nord would have us lower the level of one of its branches, Orthodontics. If our Universities are to continue to increase the quality of teaching, to inspire their Dental students to an even higher level of achievement in their Dental practice, we can only do so by increasing the level of perfection in each branch of Dentistry, Orthodontics not excepted. It seems to me that Nord is not in agreement with this proposition. Instead of striving for greater idealism in our orthodontic endeavors, he suggests that we be satisfied with less. He does not hesitate to prejudice what the patient wants.

A discussion concerning the merits of Nord's proposed technical procedures seems useless in view of the preponderance of Dental orthodontic literature and substantiated scientific research by men whose qualifications seem unquestionable. They unhesitatingly advocate fixed orthodontic appliances, sound diagnostic procedures, postgraduate specialty training if

the highest caliber of orthodontic service is to be rendered to the public.

A two-week postgraduate course for General Practitioner, as it is taught in some schools, is completely inadequate to train men in the treatment of malocclusion and maintain this high level of orthodontic service. Furthermore, it is also totally inadequate to train one in the interception of malocclusion through any orthodontic intervention. These courses then become a danger to the patients, to dental public relations, and to the Dentist himself. Insufficient exposure to the complex problem of growth and development, to the wide variety of malocclusion, to detailed orthodontic diagnostic procedure, to delicate appliance manipulation leaves the Dentist who attended the short course a victim of the inconsequence of those who advocate such a training. The realisation of their limitation is unknown and this realisation may come only after harm has been done to the patient, to Dental public relations and to the Dentist himself.

Finally, the answer to the suggestion of a clinic type service "to bring orthodontics to the masses" is found in the "transactions of a Workshop in Orthodontics", June 1958, which states page 220:

"The criteria for completion of orthodontic services in North America differ greatly from those generally accepted in some other countries. Experience with public health orthodontic programs have shown that it is desirable to maintain the standard of orthodontic completion that prevails in private practice in North America."

It would be my hope that the Canadian Dental Schools will continue to strive for a higher quality of orthodontic treatment as they do for general treatment, by insisting on adequate orthodontic training.

24 Hazelwood, Outremont.

ABSTRACTS

Reduction of Radiation Dosage in Dentistry for Children

GORDON M. JINKS, D.D.S.

Concern over the hazards of radiation in dental and medical practice has developed mainly because of the amount of extra man-made radiation released from atomic testing. Concern has been expressed mainly over the dose received by the reproductive organs and the possible mutations produced in future generations. This fear, once having developed in the minds of people, is most difficult to remove even though recent investigations have shown that the actual amount of radiation received from atomic testing is well within the limits of reasonable safety — approximately 1 mr. per year. Natural radiation from cosmic rays, radio-carbon within the body, and some other sources are approximately 100 mr. per year.

On the other hand, radiation from dental and medical sources contributes distinctly to the total dose received, but this radiation is delivered to specific areas of the body and cannot be interpreted as a whole-body exposure. Gaining information, hence, resolves itself to a study of the amount of radiation received by the reproductive organs during certain procedures.

Since the dentist will be reading much about radiation, a few definitions, abbreviations and concepts first should be presented.

N.C.R.P. — The National Committee on Radiation Protection is the official body of the United States which, in co-operation with international bodies, lays down policy of protection from radiation and sets the M.P.D.

M.P.D. — Maximum permissible dose is the amount of ionizing radiation that, in the light of present knowledge, is not expected to cause detectable bodily injury to a person at any time during his lifetime. This dose now is limited to 100 mr. per week or 5,000 mr. per year to any part of the body. This figure is the M.P.D. for personnel using x-ray equipment. For non-occupational exposure, the N.C.R.P. has established a limit of 1,500 mr. per year.

Gonadal Dose — The gonadal dose is that amount of radiation received by the spermatozoa or ova and it is not the same as the dose in air since overlying tissues filter out many of the rays. It is estimated that the gonadal dose is 50 per cent of the air-dose in the pelvic region.

Roentgen — The roentgen is the international unit of radiation and it is designated by the sign, r. It also is meas-

ured in mr. or thousandths of an r. (1 r is 1,000 mr.)

K.V.P. — Kilovolt peak is the peak of the power delivered to the x-ray tube. Two amounts are utilized in dental equipment, 65-70 K.V.P. and 90 K.V.P. The advantage of the machine with the higher K.V.P. is its ability to deliver more penetrating rays of higher wave-length and reduce the dose by some 21 per cent over that delivered by the machine utilizing 65 K.V.P.

Collimation — Collimation is a restriction of the primary beam by means of a lead diaphragm which has a $\frac{3}{4}$ -inch aperture and, when inserted into the primary beam, restricts the beam to a diameter of three inches at the tip of the cone. Both long and short cones should be equipped with a diaphragm to restrict the beam to three inches and produce the resultant diminution in the dosage.

Injuries to Tissue from Radiation — Injuries to tissue are caused when x-rays displace orbital electrons from the atoms and molecules with which they collide. The biologic effects of radiation are produced by biochemical reactions in tissues as recombination takes place. Conditions such as fetal death, microcephaly, hydrocephaly, anomalies of the eye, damage to epiphyseal cartilage, and leukemia are considered related to radiation by many investigators. Apparently a high rate of leukemia develops among personnel using x-ray equipment.

Methods of Reducing Radiation

1. *Interposing a barrier* between the x-ray machine and the operator.

2. *Fast film.* All companies now manufacture high speed films in adult size which will produce a clear picture at 1/5 of a second for machines utilizing 65-70 K.V.P. and 1/10 of a second for machines utilizing 90 K.V.P. However, Rinn is the only company which manufactures a very fast child-size film. These can be exposed at an average of 2/5

of a second, or twice as fast as that of Kodak. All exposures, bite-wings or peri-apical, can be exposed for the same length of time. The time can be reduced by an additional 50 per cent by using a more active developer so that a full-mouth dental survey now can be obtained with films exposed for only 1/5 of a second each.

3. *High-Potency Developer*—The Picker x-ray Corporation has produced an intensifying developer called "Pix." This corporation claims that exposure can be reduced by 20 per cent when Pix is used. Results in the dental office have shown that the length of the time of exposure can be reduced 50 per cent.

4. *Limitation of Films* — Considering that the younger the child the more susceptible to radiation are his tissues and, also, that the shortness of his torso places the target close to his gonads, it is recommended that full-mouth surveys be reduced to eight radiographs during preschool age. Additional radiographs can be spaced out over the years when deemed necessary. The technique results in approximately a 40 per cent of reduction in total exposure.

The resultant dosage of radiation to the patient with such a technique can be calculated by determining the output in r's per second of the x-ray machine used. These figures can be obtained from the manufacturer. For example, General Electric's 70 K.V.P. machine delivers 1.39 r in one second at an 8-inch film-target distance with added filtration. In 1 $\frac{3}{5}$ seconds the dosage would amount to 2.10 r.

Handbook No. 60 of the U. S. National Bureau of Standards states: "... for persons under 18 years of age who are exposed non-occupationally to radiation in the course of their normal activities, protective measures shall be taken to make sure that they receive no more than 1.5 r. per year." Obviously, a patient being exposed by the machine that would have to be used is being exposed to more than the recommended radiation. Fortunately, how-

ever, there are several ways that the dosage can be reduced further without sacrificing the diagnostic value of the film.

5. *Addition of Aluminum Filter* — An aluminum disk, 0.5 mm. in thickness and about the size of a silver dollar, placed in the x-ray machine at the point where the rays leave the head will reduce the exposure. These disks can be ordered through one's dental supplier. Most x-ray machines possess an inherent filtration, usually in the glass surrounding the tube. The new General Electric machines have the equivalent of 1.5 mm. of aluminum, hence the addition of 0.5 mm. of aluminum will produce a reduction of 21 per cent on dosage. Etter found that there was no advantage from the addition of more than 3 mm. of filtration.

6. *Collimation*

7. *The Use of Higher Voltages* — The use of higher voltages produces rays

which are more penetrating and, therefore, the time of exposure can be reduced. Even though radiation is delivered at a greater rate, the resultant dosage has been found to be 21.5 per cent less.

8. *Lead Apron* — Children, because of their shorter torso, receive $2\frac{3}{4}$ times the gonadal air-dose, and it may be wise to drape all children across the pelvis with a lead apron during radiography. There is a 96 per cent reduction in gonadal air-dose by using a lead apron as compared with the dose delivered without the apron. The dose was found to be .0008 mr. for one exposure when using a 70 K.V.P. machine at $1/5$ second. Hence, an eight-film full-mouth survey will produce a total dose of .0064 mr. Using a lead apron, reducing the number of films and using an intensifying developer, the total exposure to the gonads can be reduced by approximately 98.5 per cent during a full-mouth survey.

Journal of Dentistry for Children First Quarter 1959.

The Effects of the Loss of the First Permanent Molar

R. E. JENNINGS, D.D.S., SPEEDWAY, INDIANA

Hirschfeld has pointed out that as many as 80 changes and deleterious conditions can be directly or indirectly traced to the loss of a first molar. These changes may be classified under three main headings:

1. Drifting
2. Elongation of opponent
3. Diminished local function.

Drifting will occur both mesially and distally into the area formerly occupied by the now lost first molar. As the bicuspid fall distally they may be accompanied in the shift by the cuspid and incisors on that side resulting in a collapse of the arch and a shifting of the midline toward the space created by the lost tooth. The open contacts that are produced will lead to food impaction, in-

creased caries and pocket formation. As the bicuspid of one arch shift distally, the new end to end cuspal relationship with their opponents will result in traumatic occlusion with its periodontal complication.

The elongation of the tooth opposing the space also occurs and as this tooth moves out of its socket and its mesio-distal dimension at the contact area decreases, normal contact along the entire arch are broken and the adjacent teeth shift into new relationship. This shifting will produce a generalized loss of proper contacts and also further complicate the occlusion problems already resulting from the gross shifting of the arch with the lost tooth. The elongated tooth will undergo a degree of root exposure and over

a period of time will experience a denudation of the bifurcation.

One of the more challenging problems that is today encountered by dentistry is that of the preservation of the first permanent molar in the child patient.

Contrary to the belief held by some, the second molars do not come forward alone to occupy the space left vacant by the extraction of the first molar, but a more general disturbance of the teeth manifests itself. The younger the child when the first permanent molar is extracted, the greater the harmful effects on occlusion and the higher the increment of dental caries.

Each tooth is held in its position in the dental arch because six forces are acting on it. The second and third molars are exerting an anterior force on the first molar and the teeth anterior to it are exerting a force which is equal and opposite, the source of this force being the lip musculature. The tongue exerts an outward force on the tooth and the cheeks offer an inward compensating force. When the teeth are in occlusion and during mastication a downward force is applied to the tooth, with an equal upward force being exerted by the alveolar process and surrounding bony structures. Should one or more of these forces be removed, the teeth will begin to drift.

If we remove the first permanent molar from the lower arch of a child, the following changes will occur:

1. The shifting of teeth within that arch with the opening of contacts.
2. Rotation of some of the units.
3. A shortening of the arch.
4. A shift of the mid-line.

The third important factor which must be considered is that of diminished local function. The patient will, almost without exception, shift the masticatory load to the side where no loss has been sustained. This will produce an un-hygienic condition on the side where the loss has occurred since the teeth will not be mechanically cleaned during the masticatory process. It will also result in uneven occlusal wear on the side of the arch

which carries the burden of mastication with a muscular disbalance and possible displacement of the condylar head in its fossa.

All dentistry has a most important obligation to the public to preserve the integrity of the first permanent molar in the child patient and thereby allow the normal forces of growth and development to proceed unhindered. Even in cases of known developing malocclusions the condition will be further complicated by the loss of one or more of these teeth and satisfactory orthodontic treatment thereby rendered more difficult.

Many adults are unaware that this is a permanent tooth as it does not have a deciduous predecessor and can thereby erupt into the mouth unobtrusively. Also to be stressed in the proper care is the routine use of radiographic examination. In this way a carious defect can be detected at an early enough time to require only simple treatment. The advocacy of the fluoride applications to the newly erupted first permanent molars is well advised as a protective measure.

If the carious lesion has already encroached upon the dental pulp, a pulpotomy can be performed with a high degree of success and the vitality of the tooth preserved. When the operator feels that the pulpal involvement has proceeded to the degree that a pulpotomy is not advisable, the tooth can still be maintained in the dental arch through the application of root canal therapy. Even in those cases in which the first permanent molar must be removed, dentistry still has an obligation to seek orthodontic consultation and either place a functional space maintainer until such time that a permanent replacement can be made, or refer patient to the orthodontist for closure of the existing space.

To the lay person the most important tooth is the maxillary central incisor but from the dentist's viewpoint the most important tooth and the one which should receive his most careful attention is the first permanent molar.

EDITORIAL

RADIATION

Unless you radically modify your present method of taking dental radiographs, you may be compelled to do so by sheer force of public opinion.

Fear of excessive exposure to radiation is real in the minds of people the world over. A few years ago the term radiation was just another scientific word that interested only a few. Today it is a household expression.

At times man seems tottering on the brink of complete self destruction. The unleashing of millions of tons of energy that would destroy everything in its path and contaminate the world's atmosphere for years to come, depends upon human judgement and human error. But we all cling uncertainly to the hope that man's intelligence will outweigh his greed and intolerance.

Since the accepted defence for aggression is the threat of retaliation, the earth's atmosphere continues to become more radio-active as nations prepare and test their weapons. As yet no one can measure accurately the present degree of contamination or what amount of contamination the atmosphere will tolerate before our world becomes uninhabitable. While one group of scientists works feverishly to develop monster missiles yet another group lags fearfully behind trying frantically to predict the effects upon man himself of his own explosive exploits.

People still long to be healthy and happy but no longer completely trust political leaders and men of science. Even proven health measures are suspect. Instinctively man wants to survive. So we now find concerned attention focused excitedly and sometimes angrily upon the controllable aspects of radiation. As individuals little can be done to control natural background radiation and fallout but where radiation can be controlled as in the fields of health and industry, the public is rightly insisting and expecting that every reasonable precaution will be exercised.

As dentists what does this mean to us? Fundamentally it means that we must respect all of the known and hidden dangers of radiation. Archaic thoughts of carrying on as we have done in the past must be uprooted.

In detail it means much more to the individual dental practitioner. It means that he must realize that he and his fellow health workers are the greatest known and controllable source of man-made radiation. Therefore we have no choice but to deliberately set about to alter our diagnostic X-ray machines to conform with all practical protective measures. In every dental office this will involve expense and probably plenty of it. In many offices it will mean the scrapping of old faithful, realizing that old Black Beauty

is no longer a friend and servant, but a deadly foe. In every dental office where an X-ray machine is used it must mean compulsory modifications to meet the present standards of protection. For purposes of brevity the following compulsory modifications will be tabulated.*

1. Have your present X-ray machine checked by a competent manufacturer's representative and if suggested — scrap it.
2. Use the proper diaphragm or cone and test for leakage. The proper cone limits the primary beam.
3. Use the recommended filters as suggested by your manufacturer's representative and order them now.
4. Check the radiation protection of the room installation.
5. Use fast films, good exposure and processing techniques. It would be better to say use the fastest films and developers even at the sacrifice of slight diagnostic details.
6. Protect the gonads of the patient. This can best be accomplished by directing the primary beam away from the gonads and by covering the patient as

much as possible with a lead apron. A lead apron should be standard equipment in every dental office where an X-ray machine is used.

7. Consider the indications for each radiographic examination and be sure it's really necessary. Weight possible cell damage against the anticipated benefits before exposing the patient. Perhaps a little more careful ocular examination or other diagnostic procedures would serve the same purpose.
8. Use special care with children and pregnant women or potentially pregnant women. It may be necessary to postpone exposure in some instances.

Genetic changes, malformations, cancer, leukemia, life shortening, local reactions, depilation, atrophy, ulceration, sterility and death are the ugly radiation hazards. As a health profession we must police ourselves to make all necessary changes in our present system of taking radiographs, and we must do it now.

*Many of these details have been taken from the booklet entitled "A Practical Manual on the Medical and Dental Use of X-Rays with Control of Radiation Hazards." This manual was prepared and sponsored by the American College of Radiology of the American Dental Association and would be useful to all dentists.

"To laugh often and love much; to win the respect of intelligent persons and the affection of children; to earn the approbation of honest critics and endure the betrayal of false friends; to appreciate beauty; to find the best in others; to give one's self; to leave the world a bit better, whether by a healthy child, a garden patch or a redeemed social condition; to have played and laughed with enthusiasm and exultation; to know even one life has breathed easier because you have lived—this is to have succeeded."

Ralph Waldo Emerson.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of May 31, 1959

GOVERNMENT BOND FUND

Cash:		\$	29.45
Investments:			
478 Units—Gov. Bond Fund at \$91.829 per unit			43,894.26
Interest Accrued to May 31, 1959:			
478 Units—Gov. Bond Fund at \$.40391 per unit			193.07
TOTAL		\$	44,116.78
Less: Administration fees— $\frac{1}{8}$ of 1% of \$44,116.78			55.14
TOTAL MARKET VALUATION		\$	44,061.64
TOTAL UNITS OUTSTANDING	4,461.118		
Unit value as of May 31, 1959		\$	44,061.64
	4,461.118	\$	9.877

CORPORATE BOND FUND

Cash:			36.40
			(DR)
Investments:			
1018 Units—Corp. Bond Fund at \$98.284 per unit		\$	100,053.11
Interest Accrued to May 31, 1959:			
1018—Corp. Bond Fund at \$.46600 per unit			474.39
TOTAL		\$	100,491.10
Less: Administration fees— $\frac{1}{8}$ of 1% of \$100,491.10			125.61
TOTAL MARKET VALUATION		\$	100,365.49
TOTAL UNITS OUTSTANDING	9,657.358		
Unit Value as at May 31, 1959		\$	100,365.49
	9,657.358		\$10.393

COMMON STOCK FUND

Cash:		\$	92.24
Investments:			
16,419.5048 Units Retirement Saving Plan Equity Fund at \$11.4650 per unit			188,249.62
TOTAL		\$	188,341.86
Less: Administration fees— $\frac{1}{8}$ of 1% of \$188,341.86			235.43
TOTAL MARKET VALUATION		\$	188,106.43
TOTAL UNITS OUTSTANDING	15,382.554		
Unit values as of May 31, 1959			188,106.43
	15,382.554	\$	12.229

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

BOOK REVIEW

Occlusal Equilibration and Temporomandibular Joint Dysfunction

Prepared by Nathan Allen Shore, D.D.S.
Publishers J. B. Lippincott Co. Philadelphia
& Montreal (1959) Pages 323 Illustrations
242—Price \$12.50.

Dr. Shore is indeed a gallant gentleman. To set forth in a book one of the most controversial subjects of contemporary dentistry with such vigour takes courage. I would hesitate to recommend this book to those in general practice who are not cognizant of some of the well known views on the subject of occlusal equilibration. The author does depart slightly from some of these views both as regards his physiological concept and the techniques he employs and although he makes out a very fair and reasonable case for these departures the novice may not find them as easy as the author suggests. Being an enthusiast, claims are made for the beneficial results of occlusal equilibration which are not borne out by clinical research. There is still much we do not know about occlusion and its relation to

the masticatory system as a whole, but Dr. Shore is to be congratulated in trying to bring so many loose ends together. Few interested in the subject from any branch of dentistry would disagree with his philosophy that occlusion is the basis of the science of general dental practice.

Besides the problems of occlusal equilibration the author tries to unravel the enigma of temporomandibular joint disorders. Again many will argue on the pathology of these disorders, and their treatment by the injection of various solutions. No mention is made of other conservative forms of treatment which many of us know to be effective in some cases.

However this book should be read by all those who have some knowledge of the subject and are interested in the advances that Dr. Shore has undoubtedly made and time will tell. Both the author and the publishers are to be congratulated on the excellent printing, quality of illustrations and very few typographical errors.

J. R. Trott

THE LIBRARY

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- HUBER, J. F.: Anatomy of the mouth. (CIBA, Clinical Symposia, Vol. II, No. 1, Jan.-Feb., 1959.) 30 p.
- LEAVELL, H. R. & CLARK, E. G.: Preventive medicine for the doctor in his community. New York, McGraw-Hill Book Co., Inc., 1958. 689 p. \$10.50.
- ROBINSON, H. B. G.: Tumors of the oral regions; a special reprint from Dental Clinics of North America, Nov. 1957. 143 p. \$3.00.
- THOMAS, A. E.: Bleaching of teeth. (Practical dental monographs, May, 1959.) Chicago, The Year Book Publishers, 1959. 32 p.
- TIECKE, STUTEVILLE & CALANDRA: Pathologic physiology of oral disease. St. Louis, Mosby, 1959. 480 p. \$11.50.
- UTTER, E. C.: Parliamentary law at a glance. Chicago, The Reilly & Lee Co., 1949. 60 p. \$2.25.

THE CORPS

No. 4 and No. 35 Dental Units Inspected

Brigadier K. M. Baird, Director General of Dental Services returned to Canada on June 16 following an inspection tour of RCDC Units in France and Germany. Units inspected were No. 4 Field Dental Company and No. 35 Field Dental Unit commanded by Lt.-Col. R. H. G. Cunningham and, Lt-Col. G. R. Covey respectively.

Colonel MacGowan Retires

Army Headquarters has announced the retirement of Colonel J. A. MacGowan from the R.C.D.C. effective June 20, 1959.

Colonel MacGowan a native of Tweed, Ontario, received his education in Toronto, graduating from the University of Toronto in 1926. Appointed to the Corps in 1940 he proceeded overseas in 1943 serving in the United Kingdom with various R.C.A.F. establishments. He was Command Dental

Officer, Prairie Command, Winnipeg from 1950 to 1954 when he returned to Ottawa for service at the Directorate of Dental Services. From 1957 until his retirement he held the appointment of Command Dental Officer, Central Command and Commanding Officer No. 13 Dental Company, Trenton, Ontario.

All members of the Corps wish Colonel and Mrs. MacGowan every success in civilian life.

Colonel Shillington Inspects

No. 12 Dental Company

Colonel G. B. Shillington, Deputy Director General of Dental Services inspected R.C.D.C. personnel and facilities at R.C.N., Army and R.C.A.F. Units in No. 12 Dental Company, Eastern Command during the latter part of June. No. 12 Company with headquarters at Halifax is commanded by



Colonel H. L. Harris of the Directorate inspected No. 50 Dental Unit RCDC (Militia) in Halifax during his recent tour of RCDC Militia Units across Canada. He is shown here (centre) with Lt.-Col. G. C. McLeod, r. Commanding Officer of No. 50 Dental Unit and Lt.-Col. W. M. Sinclair, Command Dental Officer, Eastern Command. Photo—Halifax Herald.

Lt.-Col. W. M. Sinclair. During his visit Colonel Shillington represented the Director General at the Canadian Dental Association Convention in Halifax.

Promotions

Army Headquarters has announced the promotion of Lt.-Col. T. L. Marsh to the rank of Colonel effective June 21, 1959 and Major L. G. Craigie to the rank of Lt.-Col. on June 22nd.

Colonel Marsh was born in England. He received his undergraduate and graduate training at the University of Toronto, earning his D.D.S. in 1932 and D.D.P.H. in 1952. He practiced in Toronto from 1932 till his appointment to the Corps in 1942 and during the war served in Canada and the United Kingdom. Since his appointment to the Canadian Army (Regular) in 1946 he has held appointments as an instructor at the R.C.D.C. School, Commanding Officer of No. 1 Field Dental Unit in Germany and Dental Public Health Officer in the Directorate of Dental Services in Ottawa. Colonel Marsh will continue to serve in his present appointment as Command Dental Officer, Quebec Command and Commanding Officer of No. 15 Dental Company with headquarters in Montreal.

Lt.-Col. Craigie was born in Kamsack, Sask. and received his dental education at the University of Toronto graduating in 1942. During his undergraduate years he

was a member of the University of Toronto Contingent of C.O.T.C. and on graduation was appointed to the Corps. Since that time he has served in various appointments in Western Command, Prairie Command and Germany. He was posted to his present appointment as instructor in operative dentistry at the R.C.D.C. School in 1956. Lt.-Col. Craigie is married with three children and resides in Camp Borden.

Colonel Edgecombe Retires

Colonel J. F. Edgecombe, O.B.E., E.D.C.D., D.D.S., F.I.C.D. has retired from the R.C.D.C. (Militia) after 20 years active and militia duty with the R.C.D.C.

Colonel Edgecombe was born in Fredericton, N.B. He was educated at Fredericton High School and received his D.D.S. at the University of Toronto. For the past number of years he has been practicing dentistry in Saint John, N.B.

He is a veteran of two World Wars, first serving with the 71st Regiment in 1913. He went overseas as a gunner with the Field Artillery in 1916 and saw service in France. He was commissioned in 1927 while serving with the 3rd Medium Brigade, R.C.A. Upon the outbreak of the Second World War he was appointed District Dental Officer at Saint John, N.B. He went overseas in 1941 and served till the end of hostilities as Assistant Director of Dental Services (Army) with the rank of Colonel.

Colonel Edgecombe retired from the Active Army in 1946 to resume his private practice in Saint John. In 1952 he was appointed Assistant Director of Dental Services (Militia), Eastern Command, Dental Advisory Staff and in 1953 was made a Queen's Honorary Dental Surgeon.

General Corps News

Lt.-Col. N. A. Butcher of Melancthon, Ont. who until recently was on the staff of the Directorate of Dental Services has been posted to Eastern Command as Senior Dental Officer, H.M.C.S. "Cornwallis", Cornwallis, N.S.

Major J. C. Brick of Windsor, Ont. who held the appointment of Senior Dental Officer, Camp Petawawa, Ont., has been posted to replace Lt.-Col. Butcher on the

staff of the Directorate of Dental Services.

The R.C.D.C. has been represented at various conventions throughout the country as follows:

Ontario Dental Association Convention, Toronto — Colonel G. B. Shillington, Major A. G. Andrews and Major S. G. Bagnall.

Canadian Dental Association Convention, Halifax — Colonel G. B. Shillington, Lt.-Col. W. M. Sinclair, Major W. K. Dickie and Captain W. F. Shaw.

Canadian Public Health Association Convention, Montreal — Major D. H. Protheroe.

Western Canadian Dental Association Convention, Banff — Colonel I. A. L. Millar, Major J. W. Turner, Major L. A. Richardson and Major H. R. Kettys.

Captain J. H. Duggan of Toronto has been released from the Corps on completion of his tour of duty.

THE PROVINCES

BRITISH COLUMBIA

Peace River Dental Association

A meeting of the Peace River Dental Association took place on May 2nd in Fort St. John. Representatives from Grande Prairie, Beaverlodge, Fairview and Fort St. John were present to hear Dr. R. R. McIntyre, past president of the Canadian and Alberta Dental Associations, and recruitment officer for the Alberta Dental Association, lecture on preventive orthodontics. Dr. McIntyre, who retired recently, practised in Calgary for many years and now spends a great deal of time travelling in the position of recruitment officer.

Dr. McIntyre spoke of the lack of recog-

nition of dentists operating in large rural centres by those whose practises lie within the limits of great cities. Not 10 per cent of the dentists in the province work north of Edmonton, he said, and city practitioners who do not know this country often ignore and even neglect them. At conventions they are neither noticed nor spoken to.

He brought up the fact that very seldom is mention ever made of the Peace River Dental Association in the dental magazine and suggested that the reason for it was that no one ever sent any information in. He offered to take the responsibility of having news put into print if someone would take

on the job of secretary. This would be a beginning, he said, in putting dentists who are doing a magnificent job in these northern areas into the spotlight.

He went on to stress that there is great opportunity in dentistry for both men and women that people do not know about. Young people who plan to enter the faculty of dentistry at university should begin planning their course while still in high school. They should choose the right options to study so that they have the qualifications required at the university entrance. Dentists, who are leaders in their communities should take advantage of the fact and attempt to direct children and students in the right direction.

B. C. Academy of Dentistry— Sod-Turning Ceremony

An historic event in the annals of Canadian dentistry took place at high noon on May 29 when the sod was turned for B. C.'s Academy of Dentistry at 1515 Robson Street, Vancouver. There was a representative crowd of witnesses which included the architects, and even the weather was favorable with the sun smiling radiantly upon the occasion.

At the outset Dr. Charles Whitworth, president of the Academy of Dentistry, introduced the master of ceremonies, Dr. Irving Snider, who has been active in the project since its inception. Dr. Snider's address follows:

"I feel highly honored to be able to welcome you to the sod-turning for the Academy of Dentistry Building.

"This is a momentous occasion for dentistry in British Columbia, because the Academy of Dentistry Building will be the first of its kind in Canada and, as far as we know, in the United States.

"It is unique in both its ownership and its facilities, in that it is being financed almost entirely by the members but will belong, both officially and legally, to the profession.

"Besides providing long-needed administrative offices, it will have a valuable dental library and the most advanced study club headquarters available.

"The standard of dentistry in British Columbia is a high one, and this reputation has been earned by the constant efforts of our members to make it so. They not only have consistently maintained the standards established during years of undergraduate study but in addition are constantly improving their knowledge and techniques by attending various study clubs, of which there are fifteen at present.



Sod turning ceremony for the B. C. Academy of Dentistry. L. to r. Dr. Wesley Munsie, Dr. Emery Jones and Dr. Charles Whitworth.

"The Academy of Dentistry Building will by no means take the place of a much-needed dental school in this province. However, from its study clubs will come the men who will staff a future dental faculty at the University of British Columbia.

"At this time I should like to thank those who have subscribed to our bond issue. The response has been good."

Dr. Snider then introduced the guests of honour: Dr. W. P. Munsie, President of the B.C.D.A.; Dr. Charles Whitworth, President of the Academy of Dentistry; Dr. Don Gullett, Secretary of the Canadian Dental Association; Dr. Emery C. Jones; Dr. William Miller, B. C. Representative on the C.D.A. Board of Governors.

The invocation was delivered by Dr. Miller:

"Our Father, may Thy blessing rest upon this task which we now begin. To those who plan, grant wisdom, foresight and understanding; to those who build, grant skillful hands and integrity in their labour; and to those who will inhabit this dwelling, grant peace, harmony and a spirit of willing service; for in serving our fellow men we glorify

Thee. Prosper Thou the work of our hands,
O Lord, prosper Thou our handiwork."

Dr. Snider referred to Dr. Emery Jones in these words:

"Dr. Jones has been chosen to perform this distinguished ceremony because over his long life-time of practice, he has contributed so greatly to the development and advancement of the dental profession in British Columbia. He served for over thirty years as a member of the Council of the College of Dental Surgeons and during that time held the positions of president and registrar.

"Dr. Jones, I now present you with this golden shovel."

Dr. Jones then turned the first sod for the B. C. Academy of Dentistry.

Concluding the ceremony Dr. Snider said: "It has been a pleasure to have had you share in our sod-turning ceremony. We hope to have you share also in the opening of our building in the very near future."

Vancouver and District Dental Society

At the final meeting for the season, Dr. Mel Butler of Kelowna gave an account of his good-will tour of Sweden and Russia with the 18 players of the Kelowna Packers' hockey team of which he is manager.

They played three hockey games and had plenty of time for sight-seeing in Sweden where they found the standard of living unusually high. In Stockholm everyone has a summer home.

In Moscow they saw only what the Russians wanted to show them. But tourists always find conspicuous differences in a foreign land. The hockey players noted the unusual food and eating habits of the Russians, who do not care for steaks. The shortage of leather was apparent, and the people gaze first at foreigners' shoes and leather camera cases.

Dr. Butler paid a visit to the University of Moscow with its 25,000 students. Everyone learns the English language. In fact there are thousands of teachers of English in Russian universities. A visit to the Institute of Stomatology which graduates 200 a year; mostly women, revealed that the dental equipment is of low quality. The dental course is of five years' duration, and much emphasis is placed upon science and mathematics. The B. C. tourists were of the opinion that we would have to learn physics and mathematics—or Russian.

After the speaker had been suitably thanked for his interesting discourse, the important annual business meeting of the society was held.

Annual reports were given, beginning with

that of the president. Dr. Max Nacht reviewed the highlights of his term of office and found an ever-increasing interest in the progress of organized dentistry.

The study clubs have continued to grow. There are now thirteen with a membership of 187. These groups are active in the study of periodontics, paedodontics, gold foil, crown and bridge prosthesis, endodontics, prosthetics, oral diagnosis, occlusal equilibration and operative dentistry.

Membership in the society now stands at 346 out of a possible 364.

The new executive will be composed of these officers:

President: Dr. O. F. Wright
President-elect: Dr. J. H. Merrell
Past-president: Dr. M. Nacht
Secretary-treasurer: Dr. A. M. Hayes
Directors: Drs. B. M. Plumb, W. L. Elliot, N. C. Ferguson and K. E. Murchie

At the conclusion of the meeting Dr. Nacht presented the gavel of office to his successor, Dr. Wright.

Golf Tournament

The emerald green fairways of Point Grey Golf Course were bathed in sunshine for the annual spring tournament of the Vancouver and District Dental Society on May 7 when some eighty enthusiasts went the rounds. About the same number stayed for the sumptuous dinner which followed.

The highest award, first low gross, was won by T. McCusker and T. Nikiforuk, each with 78, so a draw was made giving the former the Leach Shield and the latter the B. C. Dental Supply Trophy.

Prizes for second and third low gross went to J. Vickar and D. B. McDonald, each with 81. L. R. McBride and A. H. L. Campbell tied for fourth low gross with 83.

The Ash Temple Cup for first low net was carried off by H. L. Purdy with 65. Second low net was won by A. D. MacPherson with 66, and third low net by D. K. Lindsay who shot 67.

Low gross, first nine, was won by S. Moscovich; second nine, by A. H. L. Campbell.

Other prizes went to W. R. Scott, long drive; R. A. Mitchell, closest to pin; M. A. Chalmers, high net; G. Splatt, guest prize; P. L. Rondeau, door prize.

When presented with a special prize, Dick Butler, who ran the golf meets for many years, responded with a good story. (The Butler Challenge Trophy, named in his honor, is played for at the fall tournament.)

The golf committee was composed of Drs. Matt Waterman and Don McDonald, and the genial spokesman for the prize-awarding ceremony was Dr. George Creasy. D.H.M.

MANITOBA

Dr. E. N. Cole Receives Fellowship Award

The Fund for Dental Education has chosen Dr. Edgar N. Cole to receive the American Dental Trade Association Teaching Fellowship Award for 1959-60, President Maynard K. Hine, D.D.S., has announced. Dr. Cole is a postgraduate student in Anesthesiology currently studying at the University of Pittsburgh Dental School. He was awarded the first A.D.T.A. fellowship last year when he was practicing dentistry in Manitoba.

Dr. Cole has been making satisfactory progress in his postgraduate work, and it is gratifying that the Fund for Dental Education is able to assist him to complete his course so he can become a dental teacher, Dr. Hine said. The fellowship program of the Fund is designed to help produce more qualified teachers for the dental schools.

Under this grant from the American Dental Trade Association Dr. Cole will receive \$3,600 tax-free toward his educational expenses.

Saint John Dental Society

Dr. Leo A. Cormier was elected president of the Saint John Dental Society at the annual meeting in May. He succeeds Dr. G. J. Blackmer.

Other officers appointed were: vice-president, Dr. Daniel L. Britt; secretary, Dr. Arthur Steuerman, and treasurer, Dr. W. O. Mulligan.

Discussion at the session centred around the forthcoming provincial dental post payment plan, already introduced in a few provinces. The plan allows for payment of dental bills in installments through a central dental agency.

The meeting closed with the showing of a film on "Rehabilitation for Cleft Lip and Palate."

NEW BRUNSWICK

Moncton Dental Society

Dr. S. C. Geddes was elected president of the Moncton Dental Society at the regular May meeting of the Society. Elected as vice-president was Dr. Paul Cormier, and Dr. D. E. Williams was named secretary-treasurer.

A society report was given by Dr. D. C. Steeves, president of the New Brunswick Dental Society. He noted the progress of the Society and spoke on the NBDS post payment dental services committee.

At present plans are being made to incorporate the post payment plan within the province. It is already in effect in four other provinces.

Dr. R. Deware reported on the Hospital Service Committee activities and Dr. A. J. Cormier noted the possibility of a full-time school dentist by late 1959.

PRINCE EDWARD ISLAND

P. E. I. Dental Association

Dr. R. G. Romcke of Summerside, was elected president of the P. E. I. Dental Association at their annual meeting in May. Also elected were Dr. W. S. MacIntyre of Montague, vice-president and Dr. Heath McIntyre, was again elected for the office of secretary-registrar-treasurer. Members of the council are: Dr. R. H. Barrett and Dr. K. A. MacEachern.

During the proceedings a presentation was made to Dr. J. A. McMurdo of Summerside of a suitably inscribed silver tray on the completion of his 75th year in the practice of his profession.

Dr. H. E. Clark, who made the presentation on behalf of the Association, commented on the valuable services that Dr. McMurdo had made to the profession over the years. Dr. McMurdo in reply, thanked the members and recalled many pleasant memories of the Association in times past.

Among the resolutions passed, the Association once again gave full endorsement to fluoridation of water supplies and urged the citizens of Charlottetown to vote for it at the forthcoming plebiscite.

QUEBEC

Montreal Dental Club

The monthly meeting of the Montreal Dental Club was held at the Queen's Hotel on Monday, April 20, 1959, with Dr. D. C. Gordon presiding over this the final meeting of the season. Before the meeting was officially under way Dr. Gordon asked the members to rise for a one minute silence in memory of Dr. M. L. Donigan who passed away very suddenly. Dr. Donigan was chairman of the Montreal Fall Clinic for 19 years and was well known and respected for all his contributions to dentistry.

Dr. W. D. Sanders announced that the annual Spring Golf Tournament is to be held at Knolton on the weekend of June 5-7. This event is one that is always looked forward to, and it is hoped that as many members as possible will be on hand to enjoy the activities.

The application of Dr. I. Cenne for membership in the Montreal Dental Club was unanimously passed.

Dr. W. J. Johnston introduced the speaker for the evening, Dr. Howard Oliver, the president-elect of our Club. Dr. Oliver spoke on the "Prevention of Pernicious Oral Habits." After summarizing the etiology of oral habits and differentiating the types of habits, he went on to stress that treatment should be non-punitive. It should consist of a transfer of the habit to one that is not damaging to the oral cavity. Movies and slides were used to illustrate the talk.

Dr. J. Chamard thanked Dr. Oliver on behalf of the Club members present.

J. D. F.

The Mount Royal Dental Society

The second annual "D. Prescott Mowry Memorial Lecture" sponsored by the Mount Royal Dental Society was held on Monday, April 13th at the Montreal General Hospital. The speaker was Dr. Donald A. Kerr, Professor and Head of the Department of Oral Pathology and Periodontics, University of Michigan School of Dentistry. His topic directed towards the General Practitioner was "The Importance of Etiological Factors in Periodontal Treatment Planning." With the aid of a fine collection of slides Dr. Kerr ably classified and discussed all the factors that contribute to periodontal disease. Dr. Kerr mentioned that the causes of periodontal disease may be of a local, functional or systemic nature and skillfully discussed the relative importance of all the factors that fall into each of these broad categories. He

referred to himself as being a member of no particular school but adopted a position in the middle, realizing the importance of both local and systemic factors.

Dr. Kerr also gave an afternoon lecture to the dental students of McGill University on "Herpetic gingivostomatitis." He stated that primary herpetic gingivostomatitis and recurrent herpetic stomatitis represent the initial and recurrent form of herpes simplex virus infection, or may be considered as the acute and chronic phases of this disease. The clinical recognition of the acute phase of the disease is important because of the frequency with which it is confused with Vincent's infection.

The activities of the 1958-59 season of the Mount Royal Dental Society drew to a close with a dinner at the Queen Elizabeth Hotel, on Saturday, May 23rd, 1959. A well planned program for the members and their ladies was arranged by Dr. D. Soloman, chairman of the arrangements committee.

Life memberships were presented on behalf of the Society by Dr. G. Franklin to Dr. Isidore Druckman, Dr. Charles Finklestein, Dr. Samuel Hershon, Dr. M. L. Simon and Dr. Maxwell H. Toker. In addition the annual transfer of officers took place and new members of the executive were installed. The slate of officers is as follows: President, Dr. D. Steinberg; vice-president, Dr. P. Gitnick; secretary, Dr. G. Baer; treasurer, Dr. H. Rosen; ass't secretary, Dr. D. Soloman; historian & archivist, Dr. M. Toker. Members of the Executive: Dr. H. Caplan, Dr. L. Druckman, Dr. M. Gornitsky, Dr. M. Lang, Dr. H. Levitt, Dr. C. Soloman, Dr. M. Star, Dr. A. Colle.

A gift was presented to the retiring president Dr. A. Colle by Dr. A. Bazerman.

The business meeting was followed by a stimulating lecture from Dr. Winthrop Otis Judkins. Dr. Judkins is Associate Professor of Fine Arts and Chairman of the Department at McGill University. His topic was "Spring and the Renaissance" (The depths of meaning in a single painting). Augmented by a fine collection of slides, Dr. Judkins demonstrated how much one can find in a single painting such as Boticelli's "Prima Vera."

Dr. Judkins was introduced by Dr. H. Hops who acted as his host for the evening, and ably thanked by Dr. S. Silver.

Quebec Backs Fluoridation

Municipal Affairs Minister Paul Dozois says it is not enough for communities to provide abundant water for home and industrial consumption. It is important that

the water be kept pure. Mr. Dozois made the statement at the annual convention of the Canadian section of the American Water Works Association.

Commenting on water purification, he said the question of fluoridation has been widely discussed during recent years. While some objections have been raised against this water-treating process, many individuals in Canada and the United States had endorsed the principle.

Quebec's Health Minister, Dr. Arthur Leclerc, went on record during the last session of the Legislature as being in favour of fluoridation. Mr. Dozois said:

"Dr. Leclerc observed that, although the Provincial Health Department takes no direct action on fluoridation, which is a matter of municipal concern, it does encourage municipalities to adopt the measure when it is consulted.

"The department stand, the Health Minister said, was based on the fact that a great majority of dentists in the province reported there was a decrease in dental decay in towns where the water contained fluorides in the proper proportion."

SASKATCHEWAN

The Annual Meeting of the College of Dental Surgeons of Saskatchewan was held in Saskatoon on April 18. Annual meetings of the College have not been held for years, but with the dissolution of the Saskatchewan Dental Association it was felt that an annual general meeting of the profession was most desirable.

Reports were given by various committee chairmen. The report of the Legislative Committee received top priority because of the unprecedented amendments the Provincial Legislature made to the Dental Profession Act. As of June 1st it will be legal for any person, qualified or otherwise, to offer prosthetic dental services to the public; the only stipulation being that the patient present a certificate of oral health from a registered dentist or medical practitioner. It was generally agreed that every effort must be made to convince the members of the Legislature that the Act in its present form is definitely not in the public interest. Many suggestions and opinions were offered to assist in dealing with the problem and a resolution expressing confidence in the Council was passed despite the unfortunate result of its past efforts in connection with the Act.

The meeting recommended to council,

THAT the membership of Council be increased to seven members.

THAT Council recommend to the Canadian Dental Association that a legal department, and a department of public relations combining actuarial and dental economic functions on a national level, be established as soon as possible.

THAT a survey of the membership be made to ascertain how many would be interested in a group contract with M.S.I.

In the evening following a reception a banquet was held at which Honorary life memberships were presented to Dr. F. R. Graham, T. I. Robb, and C. E. Smith in recognition of fifty years of dental service in the Province. Dr. Graham was originally registered in the North-West Territories, prior to the formation of the Province. The guest speaker was Professor Hadley Van Vliet of the University of Saskatchewan. His address was greatly appreciated even though it was definitely "non-dental." The topic was "Farm Management, Present and Future."

Sessions of Council were held before and after the Annual Meeting. The following are some of the actions taken.

1. Awarded Annual Scholarships of one hundred and fifty dollars to the dental faculty at the Universities of Manitoba and Alberta.
2. Set the grant to C. D. A. for 1959 at \$25.00, and offered to increase the amount when legal and public relations departments are established.
3. Appointed a committee to negotiate a new fee schedule for Welfare Services with the Department of Public Health.
4. Appointed members to a Bursary Committee.

L. D. H.

ONTARIO

Association of Women Dentists

The Association of Women Dentists of the University of Toronto entertained the women undergraduate members of the class of '59 in dentistry at dinner at the Benvenuto. Preceding this, Dr. Flora Cowan was hostess at a cocktail party.

After dinner, a general meeting was held for the election of officers. Dr. Marjorie Wani was elected president. Other members of the new executive are: past-president, Dr. Marita Burnet; vice-president, Dr. Margaret Mahoney; secretary-treasurer, Dr. Marianne Charlebois, and social convener, Dr. Frances Culotta.

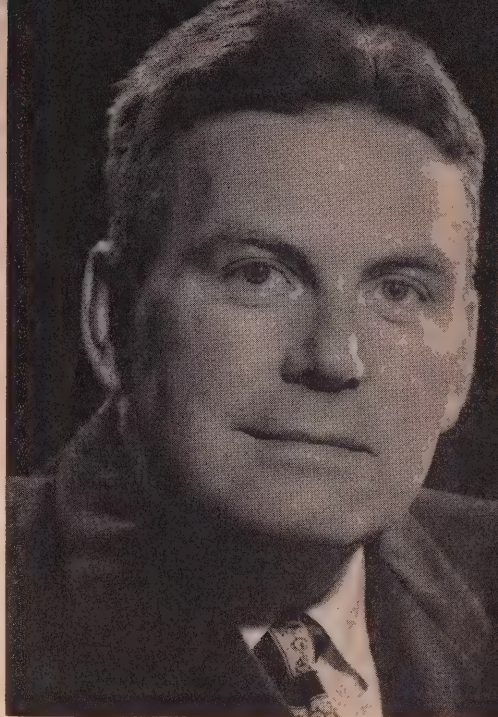
Dr. Maude Spence of Los Angeles, California who came to the Royal York to celebrate her 35th class reunion, was present.

After the meeting, Dr. Lesley Moser and Dr. Margaret Cowan presented movies of their recent trip to Europe.

Royal College of Dental Surgeons of Ontario

Dr. M. V. J. Keenan of Sudbury was elected president of the Royal College of Dental Surgeons of Ontario at the annual meeting of the college held in May. He succeeds Dr. M. C. G. Bebee of Owen Sound and will be serving a two year term.

Other officers elected were: Dr. A. H. Leckie, Hamilton, vice-president; Dr. Wesley J. Dunn, Toronto, registrar-secretary-treasurer; directors: Dr. D. C. Stiles, London; Dr. James P. Coupland, Ottawa; Dr. Wesley J. Langmaid, Oshawa; Dr. R. E. Diprose, Toronto; Dr. W. G. Bruce, Kincardine; Dr. J. R. Hurton, Brantford, and Dr. James D. Purves, representing the Faculty of Dentistry, Toronto.



Dr. M. V. J. Keenan, President of The Royal College of Dental Surgeons of Ontario.

GENERAL NEWS

Kansas Cities Vote Fluoridation

Fluoridation was approved recently in referendums held in two Kansas communities that had rejected the dental decay pre-

ventive measure three years ago via the same mechanism, according to Dr. Willard R. Bellinger, director of the Division of Dental Hygiene of the Kansas State Board of Health. The two communities are Bonner Springs and Olathe.

101,623 Dentists in U.S.; Increase of 1,089 in Year

There were 101,623 dentists in the United States in mid-1958, representing an increase of 1,089 dentists from the previous year and 2,396 from the previous two years. The newest tabulation, according to the report issued this week by the A.D.A. Bureau of Economic Research and Statistics, comprises 94,649 civilian dentists and 6,974 in the federal dental services, including 5,848 serving in the Army, Navy and Air Force, 787 in the Veterans Administration and 339 in the U.S. Public Health Service. A report based on the 1959 American Dental Directory states that the latest figures reflect a continuation of the trend nationally of the past few years of a population growth somewhat greater than the increase in numbers of dentists. The new report shows one dentist for every 1,692 persons compared with a ratio of one to every 1,679 persons a year earlier and one to every 1,671 two years before.

Dr. Jessorich challenged young people to direct their talents toward the solution of current problems of dental health and disease and pointed to the need for additional dentists. He said: Every practising dentist serves an average of 1,100 patients each year and, within the next 10 years, may have to serve several hundred more. Water fluoridation, improved equipment, new therapeutic techniques, and the availability of dental hygienists and other assistants are helping immensely to reduce the size of the problem. Nevertheless, we estimate we will need more than 101,000 dentists by 1956 to maintain present-day standards of health.

Progress Against Vincent's Infection Reported by A.D.A. Scientist

An A.D.A. senior research associate at the National Institute of Dental Research has reported the first successful production of lesions in animals from the injection of oral bacteria associated with Vincent's infection. Dr. Edward G. Hampp, director of the Association's research division at the Institute, told how he and a co-worker, Dr. Stephen E. Mergenhagen of the N.I.D.R., found abscesses in the tissues of rabbits and guinea pigs at the site injected with cultures of the spirochetes. It was Dr. Hampp who in 1943 developed the first method for growing masses of these bacteria in the laboratory. Production of the lesions in animals opens the way for studying the disease process under controlled conditions with the possibility of devising methods of prevention. The findings were reported May 14 before the Society of American Bacteriologists in St. Louis.

Hope for the Voiceless

A new artificial voice device developed by a British dental surgeon, brings to all who have had their larynx removed the hope that they will once again be able to speak fluently and lead a normal life. Although the speech produced with the aid of this device has a mechanical quality, the surgeon, a Mr. R. T. Tait, says that it is readily understood and easily transmitted by telephone.

The device, which is called an oral vibrator and has two main parts, is described in the British Dental Journal. One of the main parts is carried inside the mouth in the centre of an artificial plate. The other is designed to fit into a pocket and is no longer than the amplifier of a normal hearing aid. This contains minute batteries to supply the necessary power and is connected with the artificial plate by two small wires which have to pass out of the corner of the patient's mouth.

The patient starts the device by pressing a small button in the pocket unit. This sets the diaphragm inside his mouth vibrating and it produces a noise. By making normal speech movements the wearer moulds the vibrations into intelligible words.

When the appliance is first fitted a speech therapist is helpful to the patient in teaching him how to "speak" most clearly. With time and confidence, however, goes on the British Dental Journal, the patient gains fluency and can hope to lead a normal life.

Oklahoma Kills "Denturist" Bill; "Denturologist" Bills in Michigan

A "public denturist" bill has been defeated in a fourth state of legislature, that of Oklahoma, while a new state has entered the legislative scene with bills that would permit dental laboratory technicians to provide prosthetic services directly to the public. The newcomer is Michigan where similar "denturologist" measures have been introduced in both the upper and lower house at Lansing. The bills would set up a special licensing board for the "denturologists" and give the technicians the right to deal with the public. The bill in Oklahoma was killed May 4 in the House of Representatives. Earlier, similar measures were defeated in Nevada, Georgia and the state of Washington. Proposals to regulate the practice of "mechanical dentistry" are now pending in the California state legislature. There was also still the possibility that a "denturist" bill would be presented at the current session of the Illinois General Assembly.

Dr. Moorrees Named Associate Professor

Dr. Coenraad F. A. Moorrees, an orthodontist who studies the relationships between total body growth and dental development, has been named Associate Professor of Orthodontics at the Forsyth Dental Infirmary for Children, Harvard School of Dental Medicine. He will continue as Chief of Orthodontics at the Infirmary.

His research, over the past 20 years, has made it possible for both physicians and dentists to pinpoint the periods of growth in children at which it is critical to obtain data for diagnostic purposes.

Dr. Moorrees' monograph "The Dentition of the Growing Child" which is concerned with this work, is now in press. This will be the first major work to be published in this field.

In his earlier research at Harvard and the Forsyth, Dr. Moorrees collaborated with Dr. Stanley Garn (now of the Fels Research Institute, Yellow Springs, Ohio) and Dr. W. W. Howells, Professor of Anthropology at Harvard. He currently lectures in the Department of Anthropology at Harvard and in the Orthodontic Department at the Tufts University School of Dental Medicine.

He is regarded by his professional colleagues as a highly capable clinician of unusually sound judgment.

Fluoridation Round the World

A survey has been prepared by the F.D.I. Secretariat showing how far the principles of fluoridation are applied throughout the world. Indication is also given of the attitudes of the official health authorities, the dental and medical professions and the general public towards the question of fluoridation. Copies of the survey are available on request.

It is interesting to note that apart from the U.S.A. and Canada, the principles of fluoridation, particularly in its application to drinking water, do not appear to be implemented on a national scale in any country with Government support. However, Chile has prepared a country-wide 4-year fluoridation program and Czechoslovakia is ready to go ahead shortly with fluoridation on a large scale. Despite the fact that both the U.S.A. and Canada have accepted the statistical and scientific evidence produced during the past fourteen years to prove that fluoridation of drinking water at an optimum level of 1 part per million fluoride is a satisfactory method of reducing the incidence of dental caries, especially amongst school children, several countries have considered it necessary to establish their own experi-

mental areas to find out the effects of water fluoridation under their own specific conditions.

In addition to the period of waiting for the results of fluoridation experiments to be known, other factors appear to be influencing the spread of fluoridation in the various countries. In Latin America, for example, finance is a difficult problem. In several countries of the Middle East lack of piped water supply prevents the implementation of any water fluoridation project. Australia also has its own peculiar problem in that many water supplies in the country are so pure that water treatment plans are not necessary. The cost of installation is therefore correspondingly higher than in centres where personnel is available for such duties. Furthermore, there are many areas in the world where the natural fluoride content of the water may be sufficient in view of climatic conditions, although it is lower than 1 p.p.m. Similarly, other areas require de-fluoridation.

Fluoridation, it would seem is not a topic of general interest to the public in most countries. Some form of education programs such as that in the U.S.A. are needed to advise the public regarding the benefits to be obtained from fluoridated drinking water.

Private Practice Banned by Hungarian Government

According to an edict of the Hungarian Ministry for Public Health, private dental and medical practice was prohibited in Hungary from 1st August 1958. Dentists and physicians have been advised by their professional organizations not to accept any fees from their patients for services rendered because such acts are not in harmony with "socialistic professional ethics." Any violation will be punished by fines, and in serious (repeated) instances by imprisonment.

The reason for this edict lies in the scarcity of professional men in Hungary. Socialized medicine and dentistry did not work in that country. Governmental positions in hospitals, clinics and polyclinics remained open, whereas patients preferred to receive treatment in private dental or medical surgeries. Dentists and physicians are now forced to enter governmental services. The lack of dentists and physicians seems to be caused by a mass emigration of professional men after the brutal suppression of the rebellion of the Hungarian people against the Hungarian Communist regime. Since 1956, more than 500 dentists and 1,000 physicians have escaped from Hungary over the Austrian borders.

A.D.A. Resolution

The following amended resolution was adopted by the members of the A.D.A. on March 13, 1959.

Resolved, that the following principles be approved as the basis of a restatement of the requirements for the approval of an area for certification in dentistry:

(1) Area of practice must be one which is important in protecting the health and welfare of the public.

(2) Area of practice must be one which the general practitioner normally feels that he frequently may wish to use for the referral of a patient.

(3) Area of practice must be one in which there is a sufficient number of formalized courses in approved universities, dental schools, or teaching hospitals, so that interested applicants can be educated and receive experience.

(4) Area of practice must be one in which there is evidence that a significant number of dentists are currently devoting 50 per cent or more of their dental practice time to this area.

(5) Area of practice is not necessarily one that is a department in a dental school which has been established as a means of presenting teaching material.

(6) Area of practice must be one in which a significant number of scientific papers have been published and in which a significant number of clinics have been presented.

(7) Area must represent a substantial field of practice which calls for special knowledge and skills requiring intensive study and extended clinical and laboratory experience beyond the accepted undergraduate training in order to perform services of an unusual or difficult nature.

(8) Area must be one in which the public and professional need for such special services shall have called into existence a sizeable number of practitioners whose knowledge and skill are readily available.

New Centennial Film, "A New Day in Dentistry," Made For Television

A new Centennial Year film, "A New Day in Dentistry," designed for showing to the public, has been produced by Luxene, Inc., and is being offered to television stations throughout the country. The film, which runs for 13 minutes and is in black and white, salutes the A.D.A.'s 100th anniversary and then dramatizes widely varied activities of a dentist in general practice. It is a good film from a public relations standpoint.

Initial requests for the film were made by 10 television stations.

It is suggested that representatives of dental societies in these areas may wish to phone or call on the station to indicate the society's interest in the program. As other television stations request the film, local dental society officials will be routinely notified by the Association. The film is also available for showing before local community groups and can be borrowed from the A.D.A. film library, 222 E. Superior St., Chicago 11.

House Approves Nearly \$10 Million For Dental Research

The House of Representatives has approved and sent to the Senate an appropriations bill that includes \$9,725,000 for dental health activities for the new fiscal year, beginning July 1. The figure represents an increase of \$2,305,000 over the current budget for research, training and fellowship grants. In congressional testimony, A.D.A. representatives had recommended an increase of \$2 million. A report submitted to the House by Rep. Fogarty (D., R.I.) on behalf of the House of Appropriations Committee took strong issue with administration proposals on the budget which for the dental section were set again at the current figure. Pointing to the nation's dental bill of more than \$1.5 billion yearly and to various research efforts, Rep. Fogarty said: "With these promising leads and with the appropriation . . . amounting to considerably less than one per cent of the annual cost of the disorders with which it deals, it seems almost inconceivable that a budget would be submitted that would cut back the level of activities."

75th Anniversary of Norwegian Dental Association

From October 14th to 17th, the Norwegian Dental Association will be celebrating its 75th anniversary in Oslo, with an exhibition and a lecture program.

Professor Gösta Westin (Stockholm), Professor H. R. Mühlemann (Zurich), Dr. Terence Ward (East Grinstead), Dr. J. J. Pindborg (Copenhagen), Professor Jens Waerhaug and Dr. Ferdinand Strom will be lecturing. The following have been invited to form an American team for a panel discussion on the fluoridation of water supplies: Dr. John Knutson, Dr. F. A. Arnold, Jr., Dr. Gerald D. Timmons and Dr. Harold Hillenbrand.

W.H.O. Asked to Find \$180,150 for Dental Health in 1960

Dr. J. Stork and Dr. C. L. Bouvier, representatives of the F.D.I. at the W.H.O. Executive Board meeting in January, report that the Director General requested the Board to approve budget proposals amounting to \$180,150 for the dental health program of W.H.O. in 1960. This represents an increase of approximately \$40,000 over the amount spent in 1959.

Additional requests amounting to \$38,695 had been received from the Governments of Burma, Fiji, Ghana, India, Pakistan and Uruguay, but these were not included in the proposed program and budget estimates. Uruguay had asked for assistance in studying water fluoridation problems and installing the system where advisable.

Re-organization of the structure of the W.H.O. secretariat has resulted in dental health being upgraded to form one of the six units which constitute the new Division of Health Protection and Promotion. Other units in this Division are mental health, social and occupational health and nutrition.

Medical research is to receive stronger

emphasis in the long-range program of W.H.O. The experience W.H.O. has gained during its first ten years proves conclusively that progress in all fields depends largely on the advances made by medical research in both its fundamental and applied aspects. W.H.O. plans to co-ordinate available resources for research to sustain an intensified attack on the most important health problems of mankind. The Organization will assist also in the expansion of national activities in research, not necessarily related to the study of specific problems, particularly where such activities are at an early stage of development. The part already played by research in the various programs undertaken by W.H.O. will be expanded to give attention to problems of world wide significance and to research activities which can be best carried out through international co-operation.

Items in the program of W.H.O., which it is anticipated will benefit from the above emphasis on research, are: eradication of malaria, smallpox, yaws, tuberculosis and leprosy; vital and health statistics services; nutritional problems; improvement of community water supplies, and mental health.

IN MEMORIAM

Robert Ernst Winn — Dr. Robert Ernst Winn of Toronto, died on May 13, 1959. He was 61.

Dr. Winn was born in 1897 at Waterloo, Ontario. He received his early education at Woodstock and graduated from the R.C.D.S. in 1920, and established his practice in Toronto.

During his youth, Dr. Winn played Lacrosse and Hockey on university teams. From 1916 to 1920 he served with the C.O.T.C.

He is survived by his sister, Ethel, and a brother, Dr. N. Winn.

Albert Henry Edwards — Dr. Albert Henry Edwards of Montreal, died on February 13, 1959.

Dr. Edwards was born in Coaticooke, Quebec in 1882. In 1905 he graduated in dentistry, from Bishop's University.

P. E. Thibaudeau — Dr. P. E. Thibaudeau of Beauce, Que., died on May 30, 1959.

Dr. Thibaudeau was born in Beauce, Quebec, in 1897 and he graduated from the University of Montreal in 1921.

Horace Wood — Dr. Horace Wood of Vancouver, B.C. died on February 8, 1959. He was 81.

Dr. Wood was born in Peterborough, Ontario in 1878 and graduated from the R.C.D.S. in 1905.

William Murray — Dr. William Murray of Toronto, died on May 15th.

Dr. Murray was born in Belfast, Ireland and came to Canada about 50 years ago. He graduated from the R.C.D.S. in 1919. He practised in Cochrane, Ontario from 1920 to 1939, and from 1939 to 1956 in Toronto when he retired.

During the First World War he served with the R.C.D.C. Dr. Murray was an enthusiastic sports fan and an ardent fisherman.

He is survived by his widow Catherine.

William Henry Leach — Dr. William Henry Leach of Guelph, Ontario, died on April 7, 1959. He was 58.

Dr. Leach graduated in Dentistry from the University of Toronto in 1926.

Maurice Lamarche — Dr. Maurice Lamarche of Montreal, died on January 30, 1959.

Dr. Lamarche was born in Montreal on the 17th of August 1908 and he graduated from the University of Montreal in 1936.

William Meredith Twible — Dr. William Meredith Twible of Toronto, died on May 16th, 1959. He was 47.

Born in Toronto, Dr. Twible received his early education at Humberstone Collegiate Institute and at the University of Toronto, where he graduated in dentistry in 1936. He was chosen president of the student body in his final university year, and was also elected permanent president of his class.

He served three years during World War II with the R.C.D.C., and afterwards went on to teach at the University of Toronto. He retired from this post about 4 years ago for reasons of health.

Dr. Twible was a past president of the Central Dental Society, a member of the Academy of Dentistry, and of both the Ontario and the Canadian Dental Association. He also was a member of the Psi Omega Fraternity.

Surviving is his widow, Wilma, also two sons, Bruce and Robert, a daughter, Linda, and two brothers Robert and John.

Andrew Scott — Dr. Andrew Scott of London, Ontario died on May 24th in St. Mary's Hospital. He was 81.

Dr. Scott was born in Galt, Ontario in 1879. He graduated from the R.C.D.S. in 1900 and moved to London in 1902 where he set up practice. He retired in 1952 after half a century of practice.

Dr. Scott was a past president of both the London Hunt Club and the London Club, and he was a keen lawn bowler and curler. In addition he was among the top golfers of the London Hunt and Country Club. He was an honorary member of the Royal College of Dental Surgeons of Ontario.

Surviving Dr. Scott is one sister, Miss Elizabeth Scott.

Frederick E. King — Dr. Frederick E. King of Vancouver, B.C., died on May 6, 1959. He was 80.

Dr. King was born in New Brunswick in 1878 and he graduated from Tufts College Dental School in 1902. He practised in Vancouver for 40 years before he retired ten years ago.

He is survived by his widow, Mary, a sister, three grandchildren, and four great grandchildren.

Adelard Desbiens — Dr. Adelard Desbiens of Chicoutimi, P.Q., died on January 5, 1959.

Dr. Desbiens graduated from the University of Montreal in 1931.

David Ronald Tuckwell — Dr. David Ronald Tuckwell of Calgary, died in hospital on May 6th, following a lengthy illness. He was 39.

Joseph N. Stewart — Dr. Joseph N. Stewart of Hamilton, died on May 29th, at the age of 75.

Dr. Stewart was born in Leamington, Ontario in 1884. He graduated from the R.C.D.S. in 1908 and the following year established his practice in Hamilton.

He was a former president of the Ontario Dental Association, a past president of the Hamilton Dental Association and a fellow of the International Dentists' Association. In 1953 he was elected to a fellowship of the American College of Dentists. Dr. Stewart was a member of the Scottish Rite and the Hamilton Golf and Country Club.

He is survived by his brother, D. A. E. Stewart of Windsor, and two daughters, Mrs. C. R. Biscoombe, and Mrs. F. M. O'Flynn.



**Plan NOW to attend the
Centennial Session of the
American Dental Association,
New York, N. Y. Sept.
14-18, 1959.**

The 100th anniversary meeting, combined with the 47th annual session of the Fédération Dentaire Internationale, promises to be the most stimulating dental convention of the century!

Bring the family and combine a well-deserved vacation in the world's most exciting city with your participation in an outstanding scientific meeting. Use the handy application blank in the current issue of THE JOURNAL OF THE AMERICAN DENTAL ASSOCIATION to reserve the hotel accommodations of your choice.



ANNOUNCEMENTS

Conventions of The Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario	May
	(Centennial Celebration of Dentistry in Ontario)	

FUTURE EVENTS

Date	Function	Location	Officer	Address
Sept. 10-12, 1959	American Academy of Gold Foil Operators	New York City, N.Y.	Dr. C. C. Latham,	P. O. Box 266, Coronado 18, Calif.
Sept. 10-12, 1959	American Academy of Periodontology	Barbizon Plaza Hotel, New York	Dr. H. A. Hartman,	4187 Pearl Road, Cleveland 9, Ohio.
Sept. 11-13, 1959	American Academy of Implant Dentures	Hotel Plaza, New York City, N.Y.	Dr. A. A. Kulick,	4720 Broadway, New York City.
Sept. 12-14, 1959	American Dental Soc. of Anesthesiology	Hotel Plaza, New York City, N.Y.	Dr. W. Rakower,	57 West 57th St., New York 19, New York.
Sept. 13-15, 1959	Eastern Ontario Dental Association Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Bugden,	183 Metcalfe St., Ottawa, Ont.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

FEDERATION DENTAIRE INTERNATIONALE

The 48th annual meeting of the F.D.I. in 1960 which was to have been held in Madrid has now been altered to Dublin.

The meeting will take place in University College Dublin, from June 20th to 25th. Secretary General — Dr. G. Leatherman, 35 Devonshire Place, London W.1., England.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY

A Course in Advanced Orthodontics—January 17 to 30, 1960. Class limited to 25. Tuition fee \$300. Send applications for enrollment to: Dr. Louis Herman, Temple University School of Dentistry, 3223 North Broad St., Philadelphia 40, Penna.

Alpha Omega Fraternity at the A.D.A. Centennial Meeting

Alpha Omega Headquarters — Hotel Park Sheraton

Welcome and Hospitality Suite — Hotel Park Sheraton

Alpha Omega Dinner-Dance — Mon. Sept. 14, 1959

Reservations: Dr. Alfred Salzberg,
151 Schenck Ave.,
Great Neck, L.I., N.Y.

Alpha Omega Headquarters:
147 West 42nd St., N.Y.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

JOURNAL

Considérations sur les traitements de canaux

par ISRAEL L. FEINCHNEIDER, D.D.S., Montréal

La pulpe dentaire est l'organe pré-curseur de la dent, formé de tissu conjonctif abondamment vascularisé; elle est située en contact avec les parois de dentine dans le centre radiculaire de la dent et elle se prolonge jusqu'au tiers supérieur de la couronne.

Ses fonctions sont multiples; au stade embryonnaire, elle sécrète les cellules dentinaires qu'elle continue de nourrir par ses odontoblastes; à la période adulte, elle donne, par ses filets nerveux, la sensibilité à la dent et règle le flot sanguin à l'apex. La pulpe peut devenir pathologique à l'occasion de divers traumatismes: 1) bactérien — quand une carie perfore la chambre pulpaire; les fibres de Tomes se détruisent, de même la dentine secondaire, malgré son rôle de défense, constitué par la déposition dense d'ions calciques dans les tubuli dentinaires. 2) thermique — pendant la polymérisation d'une restauration en acrylique ou par la chaleur dégagée par la rotation d'un instrument coupant (fraise). 3) contondant — choc, ciseaux, etc. 4) chimique — réaction à l'irritation d'une substance obturatrice

(silicate, arsenic, etc. 5) galvanique — différence de potentiel de contact de divers métaux (or, amalgame).

Extirpation totale de la pulpe

La digue est de rigueur. La préparation coronaire des dents antérieures se pratique au centre de la face linguale. Des difficultés surgissent quand la perforation de la couronne est faite trop lingualemment. Cette ouverture s'opère à l'aide de fraise en diamant ou en carborandum (Starlite c IX) ou encore avec les fraises Carbide No 2 ou 4, à angle droit avec l'axe longitudinal de la dent; l'émail et la dentine sont traversés en étendant la cavité vers le bord incisif pour obtenir un accès en direction du canal. (dessins I, II)

Dans les prémolaires, l'accès à la pulpe s'obtient par une ouverture ovale pratiquée à la surface occlusale dans l'axe de la dent, en direction bucco-linguale.

Pour les molaires supérieures, il faut une perforation triangulaire, dont la base est parallèle aux cuspides buccaux.

Pour les molaires inférieures, la cavité est aussi triangulaire avec base parallèle à la face buccale (dessins III, IV)



dessin I



dessin II

Les canaux se localisent à l'aide d'une sonde ou d'un explorateur.

La carie est toute enlevée. La couronne, s'il y a lieu, doit être restaurée avec une bande métallique pour prévenir toute infiltration de salive au collet ou aux faces proximales de la dent et pour maintenir aseptique le champ opératoire.

La cavité est nettoyée; les débris d'émail, de dentine, les résidus d'amalgame, de silicate sont éliminés. On complète par une irrigation de la cavité au Zonite (hypochlorite de soude). La longueur exacte des racines est déterminée par des radiographies; cette mesure guide l'enfoncement des limes qui ne doivent en aucun cas dépasser l'apex. Il vaut mieux rester en deça de l'apex (de 1 ou 2 mm.) quand on craint que la radiographie ne donne pas une image précise de la longueur des racines.

La pulpe peut maintenant être extirpée avec un gros tire-nerf; dans des canaux très larges, on peut en utiliser plusieurs à la fois; dans des canaux étroits, on peut se contenter du travail d'élargissement des

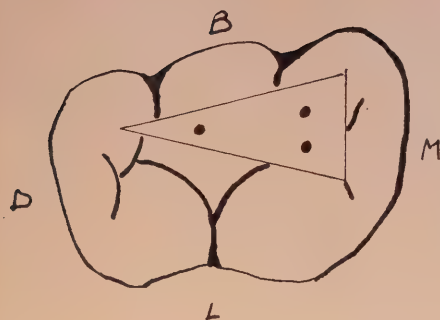
limes pour l'ablation des filets radiculaires. L'extirpation de la pulpe est une opération délicate qu'il faut exécuter sans pression et sans force: les instruments utilisés pour ce travail sont fragiles et se brisent facilement. (dessin V)

Il est bon, à ce stage, de prélever une culture du canal pour un test bactériologique. Quand le canal est vidé, on l'agrandit avec les limes appropriées à son diamètre, en commençant avec les plus fines et en augmentant graduellement la jauge.

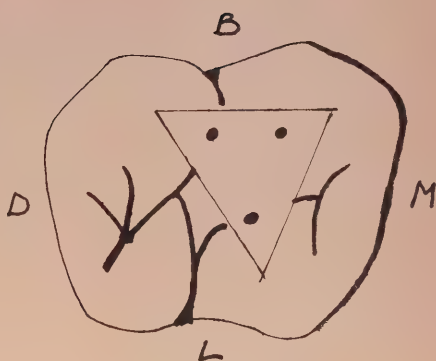
Le canal est nettoyé de nouveau avec le Zonite que l'on injecte dans le canal à l'aide d'une seringue et d'une aiguille dont le diamètre est plus petit que le canal pour que le liquide puisse s'échapper par l'extérieur de la couronne.

Emploi des limes

1) Si le canal est courbé, la lime doit être pliée dans le même axe; une lime droite dans un canal courbé risque de créer un canal artificiel ou d'y créer un épaulement.



dessin III



dessin IV

2) Toujours restaurer la courbure après l'emploi de la lime.

3) Nettoyer les limes sur un coton imbibé de phénol après chaque pénétration dans le canal.

4) Utiliser graduellement des limes de divers diamètres; augmenter progressivement et numéalement.

5) N'exécuter avec la lime qu'un quart de tour en rotation, surtout si elle bute sur un obstacle.

6) Limiter le trajet de la lime à $\frac{1}{2}$ mm. du foramen apical.

7) Enlever les débris de dentine par des irrigations fréquentes.

8) Quand le travail de nettoyage et d'accès est terminé, on insère dans le canal un pansement pour deux à huit jours. On scelle hermétiquement à l'oxyphosphate. A la séance subséquente, culture pour examen bactériologique. Si le test est négatif, on obture définitivement le canal avec des pointes d'argent dans les canaux étroits et avec des tiges de gutta-percha dans les canaux larges. Les pointes sont scellées avec le Diaket. La cavité est fermée à l'oxyphosphate.

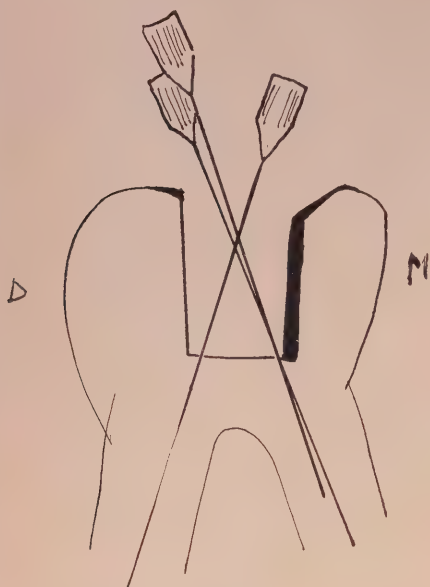
Extirpation partielle de la pulpe

L'ablation complète de la pulpe se recommande quand celle-ci est congestionnée dans son ensemble et partiellement putréfiée. Une autre technique s'utilise quand la pulpe est exposée par la carie ou un instrument tranchant; c'est la

pulpotomie ou l'amputation de la partie coronaire. Ce traitement consiste à enlever la portion inflammée de la pulpe dans la partie la plus considérable de la chambre pulpaire, en laissant intacte la portion radiculaire de la pulpe.

Teucher et Zander, en 1938, ont publié un rapport d'expériences entreprises sur une technique de pulpotomie, en recouvrant la pulpe saine d'hydroxyde de calcium; les coupes histologiques, dans cette étude, montraient la formation d'un pont de dentine saine au niveau de l'amputation pulpaire. Cette technique préconisée par plusieurs experts n'offre pas les garanties de succès de la pulpectomie totale, car trop de facteurs échappent au contrôle de l'opérateur.

Un pansement d'oxyde de zinc-eugenol est d'abord inséré dans la cavité durant vingt-quatre heures pour diminuer la congestion et soulager la douleur. A la seconde séance, anesthésie tronculaire ou directement dans le tissu pulpaire, si les méthodes ordinaires d'anesthésie ne donnent pas de succès. Isolement de la dent à l'aide de la digue. Stérilisation du champ opératoire avec teinture de metaphen. Utilisation d'instruments stérilisés et maintenus stériles. Ablation du pansement. La trépanation de la chambre pulpaire se fait avec une grosse fraise ronde et des curettes de façon à exposer largement la surface supérieure du tissu pulpaire.



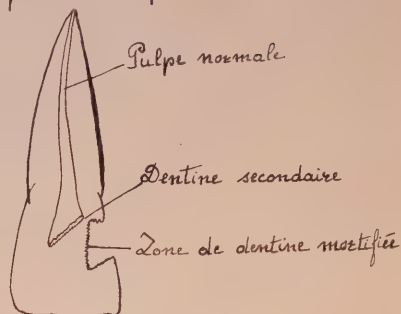
dessin V

Mettre en contact avec la pulpe une boulette de coton imbibée de phénol. Amputation avec fraise ronde. Nettoyage des débris avec coton imbibé de phénol. La cavité doit être très propre jusque dans la chambre pulpaire pour éviter la coloration de la dentine et de l'émail. (dessin VI)

Les hémorragies se contrôlent avec de l'eau saline, ou avec des hémostatiques Néo-Synéphrine (1%) ou Adréraline (1-500). Ces substances s'emploient sur une boulette de coton placée dans la cavité et maintenue avec pression durant quelques minutes.

Après avoir asséché la cavité, y placer au fond une couche d'hydroxyde de calcium et obturer la cavité à l'oxyphosphate. Avant l'obturation finale, un test de vitalité s'impose pour constater la normalité des portions radiculaire de la pulpe. Les dents adultes exigent un délai de douze semaines, avant l'obturation finale. Les dents primaires peuvent être obturées immédiatement à l'amalgame d'argent.

Pulpite chronique



dessin VI

Traitement des pulpites suppurantes aiguës

Les causes les plus fréquentes des inflammations aiguës de la pulpe, avec formation d'abcès, sont les caries profondes qui s'invaginent dans la pulpe. La douleur est intense, parce que l'exudat ne peut drainer que par l'apex.

La situation est fort différente dans les cas d'exposition simple de la pulpe, car alors, seule la pression des aliments dans la cavité déclenche la douleur. A la clinique, quand la douleur se manifeste à la pression, le diagnostic se pose avec l'emploi d'un vitalomètre. La radiographie montre trois images possibles; épaissement de la lamina dura, résorption radiculaire, lyse alvéolaire.

Le seul traitement recommandé pour les pulpites ulcéraives chroniques consiste dans la pulpectomie complète. Il convient de faire la toilette de la cavité et de l'irriguer avec du Zonite avant d'enfoncer les limes dans les canaux pour prévenir le refoulement des bactéries dans la région péri-apicale. (dessin VI)

Nécrose

On appelle nécrose pulpaire, la dévitalisation de la pulpe sans infection microbienne. Il y en a deux variétés: (1) la nécrose calcifiée, quand la pulpe a une consistance de fromage; il y a là coagulation des protéines et des lipides; (2) la nécrose liquéfiée, qui est un apport d'enzymes protéiques libérées par les

leucocytes de la région inflammatoire et les cellules mortifiées de la pulpe. La nécrose, étant un stade terminal d'un état inflammatoire, a les mêmes causes que toutes les autres pathologies de la pulpe. Des signes cliniques précèdent toujours la mortification totale des cellules pulpaire: (a) les cellules inflammatoires, dans les cas de désintégration progressive, s'accommodent avec les dépôts de la décomposition protéique; l'odeur est le seul symptôme qui persiste; (b) l'hémorragie de la pulpe, conséquence d'un traumatisme, colore en gris et en brun les tubuli dentinaires; on assiste alors à une fixation d'hémoglobine dans les canalicules.

Les épreuves thermiques, surtout le froid, sont toujours négatives; le chaud occasionne des sensations quand il y a des gaz de putréfaction dans la chambre pulpaire. Les données de la radiographie diffèrent selon la période écoulée après la mortification: elles sont généralement positives; une modification dans la zone périapicale (épaississement de la lamina dura) a eu le temps de s'installer, précisément à cause de l'absence de symptômes subjectifs.

Gangrène

C'est la putréfaction des cellules pulpaire par les bactéries. La gangrène, qui

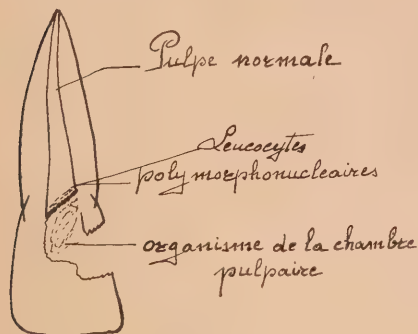
est la dernière phase du processus inflammatoire, peut être abondamment exudative; elle peut être sèche par manque d'apport sanguin. La carie en est le stade initial.

La douleur est le symptôme subjectif le plus important, si la gangrène fait suite à une pulpite aiguë: la douleur disparaît temporairement, si l'infection périapicale se modifie en un abcès alvéolaire aigu ou en périodontite. La percussion détermine une sensibilité. Le vitalomètre donne des résultats négatifs, à moins que le contenu de l'espace pulpaire soit liquide; cette substance liquide constitue un excellent conducteur du courant électrique. La chaleur peut occasionner une douleur, le froid peut la calmer temporairement.

La radiographie montre des effets différents selon l'époque écoulée depuis la mortification de la pulpe. (dessin VIII).

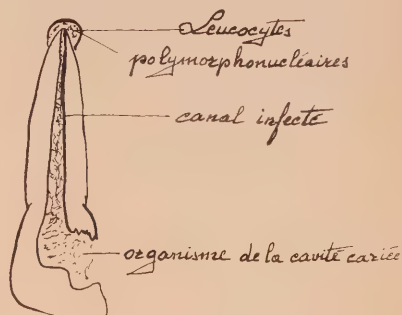
L'examen pathologique du tissu pulpaire gangrené révèle la présence d'une abondante diversité de protéines décomposées; cette destruction des protéines s'explique par l'action sur la molécule protéique des enzymes de liquéfaction des leucocytes et des bactéries anaérobies et aérobie. On trouve dans ces protéines décomposées les substances suivantes: bactéries (anérobie et aérobie), putresci-

Pulpe ulcérée



dessin VII

Pulpe exposée



dessin VIII

ne, cadavérine, indole, skatol et tryptophane, qui génèrent l'odeur nauséabonde. Ces substances produisent à l'apex une réaction tissulaire considérable.

Traitement biomécanique de la gangrène

- a) nettoyage de la cavité au Zonite
- b) mensuration du canal à l'aide de radiographie (morceau de digue inséré sur lime Kerr, no 1 ou no 2, en enfonçant au début qu'à la moitié de la racine)
- c) insertion de Zonite avec la lime avec mouvements rotatifs et non verticaux
- d) ablation du Zonite avec pointes de papier
- e) insertion de Zonite toute la longueur du canal, en exécutant les mêmes mouvements
- f) assèchement après chaque insertion de Zonite jusqu'à ce que la pointe de papier sorte sèche
- g) scellement d'un médicament, sauf si la suppuration persiste; dans ce cas, drainage avec pointe de papier recouverte d'une boulette de coton inbibé de vernis.

Médication

Le médicament idéal n'existe pas encore. Celui-ci devrait avoir les qualités suivantes: 1) détruire effectivement les bactéries nocives; 2) détruire, neutraliser ou éliminer tous les produits toxiques présents dans les canaux; 3) être toléré par les tissus sains et ne pas amorcer de réactions toxiques ou allergiques; 4) ne pas décolorer la dent; 5) être assez pénétrant pour agir en profondeur dans les tubuli dentinaires; 6) être stable à la température normale; 7) ne pas s'opposer au mécanisme de défense naturelle; 8) ne pas être neutralisé par le sang (sérum des protéines), même en présence de pus dans les canaux ou le tissu périapical; 9) être facile d'emploi; 10) se conserver en stock dans les officines pharmaceutiques.

Les médicaments utilisés couramment par le dentiste peuvent se classer en trois groupes: 1) les halogènes; 2) les dérivés du phénol; 3) les antibiotiques. On pourrait en formuler un quatrième groupe, qui serait formé d'un mélange des trois premiers. Les médicaments radiculaires restent toujours en contact avec des tissus

durs. Les substances qui fusent vers l'apex viennent d'abord se loger dans les tissus périapicaux; ils doivent être employés avec précaution pour ne pas détruire les cellules saines, car la destruction du tissu physiologique retarde la cicatrisation et la guérison.

Les halogènes: chlore, brome, fluor, iode.

Le chlore, à cause de son instabilité, ne peut se sceller dans une racine; il s'emploie sous forme d'hypochlorite de sodium pour laver le canal et le débarrasser des protéines qui se sont formées à l'origine de l'infection. Le paramonochlorophénol camphré est composé de deux solides (camphré et paramonochlorophénol) qui se liquéfient à des proportions fixes, 35%, 65%. Ce liquide qui a été proposé par Walkhoff, en 1891, est jugé supérieur au formocrésol qui est trop irritant pour les tissus périapicaux, forme des exudats et occasionne des douleurs persistantes. Récemment, Sommer, Ostrander et Crowley ont suggéré, pour obtenir de meilleurs résultats, d'y incorporer de la pénicilline.

L'iode en solution était recommandé sous forme de solution de zinc iodé pour la stérilisation électrolytique. Il a l'inconvénient de décolorer la dent et d'être un irritant pour les tissus périodontaires. Son action est lente.

Les phénols liquéfiés peuvent s'employer pour la coagulation des protéines et pour maintenir des fibres pour l'extirpation de la masse pulpaire. Ils sont des caustiques puissants et ils sont à déconseiller à cause de leur peu d'action sur les cellules périapicales.

La crésatine, sous forme d'acétate de méthacryl, pénètre profondément sans causer d'irritation. Ses qualités antiseptiques, d'après Schiller, sont excellentes en présence de monolia. Antibiotiques: On les utilise surtout dans les canaux dont la pulpe est putréfiée ou qui souffrent d'abcès à l'état aigu ou chronique. On doit toujours songer, en les employant, à leurs réactions allergiques ou à la résistance qu'ils peuvent déterminer chez un individu qui en fait souvent usage.

On trouve fréquemment dans des canaux radiculaires infectés des bactéries

de gram négatif. La pénicilline est alors d'aucune utilité. De même, dans un même canal, peuvent s'y loger des bactéries de types différents, dont la destruction exige des médicaments différents: un seul médicament ne pourrait être efficace. C'est pourquoi, on ajoute d'autres antibiotiques à la pénicilline.

Le premier polyantibiotique utilisé en endodontie fut le P.B.S.C. de Grossman, dont la formule était la suivante:

Pénicilline	300,000 unités
Bacitracine	10,000 unités
Dihydrostreptonycline	1.0 gm.
Coprilate de Na	1.0 gm.
Liquide de silicone	DC 200 q.s.

Cette pâte épaisse, stable à la température ordinaire, s'introduit dans le canal à l'aide d'une seringue; elle ne peut se préparer dans le cabinet du dentiste et certaines réactions périapicales ont été provoquées par la Bacitracine.

Salzar et Bender ont modifié la formule en substituant le chloramphenicol à la Bacitracine et la pénicilline G de procaine à la pénicilline G de potassium. La formule est devenue la suivante:

Pénicilline G de procaine ..	300,000 unités
Chloramphenicol	250 mgms.
Complexe de chlorure de calcium et streptomycine	250 mgms.
Caprylate de Na	250 mgms.

Le mélange peut se faire par le dentiste lui-même.

La substance la plus récente est la crème D.C.P. C'est un mélange d'antihistamine et d'antibiotique, dont la formule est la suivante:

Pénicilline G, Benzathine .	300,000 unités
Chloramphenicol (en cristaux)	125 mmgms
Chlorocyclizine (anti-	

histamine)	100 mmgms
Lidocaine (onguent 5%)	0.5 cc.

Cette pâte est anti-bactérienne et donne la maximum de confort post-opératoire. Le dentiste peut la préparer de la façon suivante: 4 tablettes de chlorocyclizine (50 mmgms. chacune) écrasées dans un mortier auxquelles on mêle une capsule de chloramphenicol (250 mmgms.) et une capsule de pénicilline Benzathine (600,000 unités).

On reproche aux polyantibiotiques d'annuler les résultats des tests de culture et de les rendre toujours négatifs en donnant une fausse sécurité au sujet de la stérilité des canaux. Grossman et Parris de Cobe prétendent qu'on peut obtenir une culture réelle du milieu, même après l'usage du D.C.P., à condition d'avoir asséché parfaitement le canal radiculaire avec quatre pointes de papier.

Le nettoyage mécanique ou chimique du canal est une condition indispensable au succès du traitement, nonobstant la méthode de stérilisation employée, y compris l'ionophorèse.

Traitement des fractures de dents chez les jeunes patients

La fracture des dents chez les jeunes enfants se produit au cours de chocs subis dans la pratique des sports, les accidents d'automobile et les chutes de toutes sortes. Ces traumatismes se manifestent dans les dents des façons suivantes: 1) mortification pulpaire; 2) hémorragie et résorption radiculaire; 3) fracture de la couronne; 4) fracture de la racine; 5) avulsion traumatique de la dent dans sa totalité; 6) enfoncement de la dent dans son alvéole.

Il ne s'agira ici que des fractures de la couronne et de la fracture des racines. Les différents types de fracture coronaire sont les suivants: dents antérieures — fractures oblique, horizontale, verticale; molaires inférieures — fracture de la paroi linguale; prémolaires et molaires supérieures — fracture des parois vestibulaires.

La radiographie joue un grand rôle dans le pronostic de ces cas pour déterminer le diamètre de la chambre pulpaire et ses relations avec la fracture et pour évaluer l'épaisseur de la couche de dentine située entre la cavité pulpaire et le trait de fracture. Le principal symptôme subjectif des fractures de dents se retrouve dans la douleur au chaud et au froid.

Un principe doit présider au traitement: la pulpe garde son intégrité plus sûrement, si les tubuli dentinaires exposés sont recouverts promptement.

Fractures horizontales et verticales, sans complication pulpaire:

a) laver la surface dénudée avec du sérum physiologique (9 gr. au litre ou 1 cuillerée à café à la pinte; b) assécher la surface à l'aide de coton hydrophile, (éviter air chaud ou air froid); c) couvrir la surface exposée avec une crème épaisse d'engénate; d) protéger la dent avec couronne en cellulose remplie de silicate pour une ou deux semaines; le silicate ne cause aucun tort à la dent, si la surface de dentine est recouverte d'engénate; e) faire une restauration adéquate, lorsque la dent est normale. Les complications sont proportionnelles au temps écoulé entre l'accident et le traitement. Le pronostic est bon si la dent est protégée au cours des vingt-quatre heures qui suivent le traumatisme; douteux, si quinze jours se sont écoulés avant tout traitement.

Fractures horizontales avec blessure à la pulpe

Le traitement est le même pour les cas où l'ouverture de la pulpe a le diamètre d'une pointe d'épingle, comme pour ceux où l'ouverture est très grande.

Chez les jeunes sujets, où le foramen apical n'est pas encore calcifié, il vaut mieux pratiquer la pulpotomie. La pulpectomie est recommandée sous les dents dont la couronne ne peut plus supporter une obturation.

Fracture de la couronne en dessous de la papille gingivale

Ces fractures soulèvent des problèmes sérieux, car le flot de la salive ne peut se contrôler et le traitement ne peut être aseptique. De plus, les restaurations subgingivales présentent de grandes difficultés et nécessitent parfois une gingivectomie. L'extraction de la dent s'impose quand la fracture se loge à plus de 2 mm. sous la gencive.

Fractures verticales de la couronne

Heureusement ces cas sont rares. Le problème réside surtout dans la restauration qui est en rapport avec l'étendue de la fracture. Ces dents peuvent être reconstituées, seulement si la pulpe est intacte.

Ces fractures labiales ou linguales sont causées le plus souvent par des obturations trop considérables ou mal protégées. La restauration dépend cette fois encore de l'importance de cette fracture, de sa locali-

sation sub-gingivale et de l'exposition de la pulpe.

Fractures des racines

Les racines peuvent se rompre sans que les couronnes soient affectées, quand le choc est amorti par la lèvre. La dent, dans ces cas, est luxée linguale ou allongée par la perte de continuité. Les épreuves vitalométriques peuvent être négatives durant plusieurs jours à cause de la réaction des tissus (engourdissement) après le traumatisme. La pulpe a perdu sa vitalité, si la réponse est toujours négative après trois jours.

L'examen radiologique doit prouver réellement une fracture et non simuler un artefact. En immobilisant la dent, quand la pulpe est vivante, tout entre dans l'ordre. L'ostéogénèse du ciment solidifie la racine.

Il faut ligaturer la dent aux voisines en position normale et prévenir tout choc occlusal et toute irritation péri-dentaire. La vitalité est souvent contrôlée durant le traitement. La pulpectomie et l'apectomie sont recommandées pour les dents dont la pulpe a perdue sa vitalité et dont la racine est brisée au tiers apical.

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L'orthodontie en clinique

CLAUDE BARIL, B.A., D.D.S., Montréal

Plusieurs revues dentaires européennes soulignent les traitements de malocclusions à l'aide d'appareils amovibles. Ce mode de traitement semble populaire dans ces pays.

Ma curiosité fut éveillée à ce genre de traitement quand j'eus l'occasion de collaborer avec deux dentistes européens à traiter plusieurs patients en utilisant le genre d'appareils préconisés en Europe. Les résultats obtenus m'ont fort surpris et ces confrères en paraissaient bien satisfaits. Ces cas terminés, jugés aux normes américaines, étaient loin d'être satisfaisants non seulement aux yeux de dentistes compétents, mais aussi à ceux des patients ou de leurs parents.

Nous tentons, ici au Canada, de hausser le rendement qualitatif de la dentisterie et, s'il fallait mettre en pratique les directives du Dr Nord, la dentisterie canadienne baisserait ses standards, au moins dans une de ses spécialités, l'orthodontie. L'amélioration constante de tous les domaines de la chirurgie dentaire, y compris l'orthodontie, constitue le seul moyen d'améliorer la qualité d'enseignement de nos universités et d'insuffler à nos étudiants un idéal qui leur permettra de rendre les meilleurs services à leur clientèle. Apparemment, le docteur Nord n'a pas ces idées: il préfère la médiocrité et va même jusqu'à prétendre que c'est le patient qui la demande.

Il serait inutile d'entreprendre la discussion de l'aspect technique de l'article du docteur Nord: l'abondante littérature, oeuvre d'hommes avantageusement connus, me semble fournir la meilleure réponse à ses avancés. Ces gens sont d'un commun accord pour prouver scientifiquement la supériorité des appareils fixes, d'un diagnostic complet et réfléchi, sans omettre le cours universitaire postgradué qui est essentiel, si le public doit être traité avec toute l'efficacité dont on est capable aujourd'hui.

Si, comme il se doit, la qualité du service professionnel est recherchée, un cours d'orthodontie de deux semaines, tel qu'enseigné dans certaines écoles dentaires, est certes à déconseiller. Un tel cours est complètement inadéquat pour permettre

au praticien général d'entreprendre le traitement de malocclusions. J'irai jusqu'à soutenir que 15 jours sont insuffisants pour enseigner la dentisterie préventive nécessitant l'usage d'appareils d'orthodontie. Ces cours deviennent alors un danger pour les patients, pour les relations extérieures de la profession dentaire et sûrement pour le dentiste lui-même. Le dentiste devient la victime de l'inconséquence de ceux qui préconisent ces cours. Le temps minimum passé à cotoyer les problèmes de croissance et développement, la grande variété de malocclusions, la complexité du diagnostic, la délicatesse de manipulation de tout appareil d'orthodontie sont tous des facteurs de limitation du praticien général entreprenant ce nouveau genre de traitement. La plupart des praticiens généraux ne se rendront compte de leurs connaissances limitées en cette matière qu'après avoir commis des erreurs coûteuses pour le patient, la profession et certes pour sa renommée personnelle.

Enfin, la solution au problème de mettre l'orthodontie au service de la masse ne se trouve pas dans les cliniques, tel que proposé par le docteur Nord. Le problème fut étudié par les plus grandes autorités dentaires nord-américaines lors d'une session d'étude en juin 1958. Dans le rapport publié, "Transactions of a Workshop in Orthodontics", (page 220) on peut lire au sujet des cliniques d'orthodontie: je traduis: "En Amérique du Nord, la qualité couramment acceptée pour un traitement d'orthodontie est de beaucoup différente de celle en vigueur en d'autres pays. L'expérience acquise par la mise en pratique de différents programmes d'hygiène publique en orthodontie a démontré qu'il fallait maintenir chez nous le haut niveau d'orthodontie équivalant à celui qui existe présentement dans les pratiques privées."

Personnellement, j'espère que les écoles dentaires canadiennes continueront leur effort dans la recherche et l'enseignement de la qualité, aussi bien en orthodontie qu'en dentisterie générale. Cet idéal ne peut s'attendre qu'en offrant et exigeant un entraînement de première valeur.

24 Hazelwood.

PAGES EDITORIALES

Le problème des honoraires

La liste d'honoraires qu'a distribué récemment à ses membres le Collège des Chirugiens—Dentistes de la province de Québec remet en vedette la question des honoraires que les dentistes doivent fixer pour leurs traitements.

La plupart des membres de la profession établissent leurs prix d'une façon arbitraire, c'est-à-dire qu'ils les fixent en fonction de ceux perçus dans leur localité ou pour la moyenne de la classe sociale et économique des patients qu'ils traitent.

Ils aimeraient pourtant se baser sur des données certaines et sur des principes économiques fiables pour déterminer avec le minimum d'erreur les tarifs qu'ils sont en droit de percevoir pour leurs services. Comme le fabricant de marchandise calcule son prix de revient pour la vendre avec profit.

Les honoraires posent donc un point d'interrogation à un grand nombre de praticiens. Les dépenses du cabinet et les taux des techniciens augmentent; l'impôt sur le revenu personnel et les autres taxes se font de plus en plus lourds; le pouvoir d'achat du dollar s'est déprécié considérablement depuis quelques années. A la lumière de ces changements qui se produisent dans notre structure économique, il faut que les dentistes songent à leurs honoraires, s'ils veulent maintenir le standard de vie auquel ils sont habitués.

Il y a quelque temps, au cours d'une discussion sur la question des honoraires tenue parmi un groupe de dentistes de Toronto, qui exerçaient dans des milieux moyens, trois points ont été élucidés.

(1) Tous les dentistes présents étaient d'avis qu'une somme nette de \$10,000. (une fois l'impôt sur le revenu payé) représentait une rémunération convenable pour une année de travail. Ce montant proposé à d'autres dentistes de la même ville fut jugé adéquat par la majorité d'entre eux.

(2) Les statistiques publiées par le Ministère du Revenu sur l'impôt des dentistes du Canada révèlent que 64% des dentistes ont des revenus nets de moins de \$10,000. et 36% un revenu supérieur à \$10,000. ou plus, avant que ne soit déduit l'impôt sur le revenu dans les deux cas.

(3) Un ancien commissaire du Ministère du Revenu des Etats-Unis écrivait récemment dans la publication américaine des Associés en Recherches économiques qu'en 1957 un revenu de \$13,004., avant la déduction d'impôt, équivalait au pouvoir d'achat de \$5,000., en 1939. Ces faits ont raison de surprendre. Les dentistes qui pratiquaient il y a 25 ans s'entendent pour dire qu'un montant de \$5,000. constituait un revenu intéressant en 1939. Et en se basant sur les déclarations d'impôt de 1956, on constate que le dentiste ne gagne que \$4,000., si on établit la proportion entre le

pouvoir d'achat de 1939 et celui de 1956. C'est pourquoi, il est nécessaire de réviser régulièrement les honoraires dentaires pour les tenir en rapport avec le coût de la vie, en tenant compte des impôts qui augmentent sans cesse.

La détermination des honoraires professionnels est un problème individuel. Cependant, il faut que le dentiste soit capable de les expliquer et de les justifier à une personne intelligente.

Les facteurs suivants doivent être pris en considération pour établir une échelle de prix:

- (1) Déboursés inhérents aux services
 - (a) dépenses du cabinet (loyer, assistante, éclairage, licence, etc)
 - (b) Intérêts sur le capital investi par le dentiste pour pouvoir exercer
 - (c) dépenses de laboratoire, selon le cas
- (2) Revenu personnel du dentiste—qui doit être en rapport avec:
 - (a) son travail et la qualité de son travail.
 - (1) les services qu'il rend
 - (2) la responsabilité qu'il assume et le risque qu'il endosse en traitant un patient
 - (3) son habileté
 - (b) les honoraires chargés dans sa localité
 - (c) l'exigence de services individuels
 - (d) la portion qui doit être payée pour l'impôt sur le revenu.

On peut mieux tenir compte de ces facteurs en calculant le nombre d'heures consacrées au travail au fauteuil. Il est vrai que le patient ne s'attend pas à payer son dentiste sur une base de temps; ce qui l'intéresse, ce sont ses conseils, ses traitements et surtout le travail fini.

Mais il est plus facile de répartir les dépenses d'exercice, le revenu personnel, la portion destinée à l'impôt, etc, en se basant sur le nombre d'heures consacrées par chacun des dentistes à leur fauteuil.

L'Association dentaire canadienne, en 1953, a fait un relevé de l'économie de l'exercice dentaire au pays et elle vient encore cette année d'amasser des chiffres pour en faire des statistiques.

Cette enquête nous aide en même temps que l'expérience à fixer les honoraires en se basant sur le nombre d'heures de travail.

Supposons que le dentiste trouve que la somme de \$10,000. représente pour lui un revenu personnel suffisant quand son impôt est payé.

Il faut ajouter à ce chiffre le montant de \$1,000. pour les intérêts du capital qu'il a investi et \$2,000. pour son impôt. Cela fait un total de \$13,000.

Selon le relevé de l'A.D.C., la proportion des dépenses comparée au revenu net s'établit à environ 50:50. Alors les dépenses se chiffreront approximativement à \$13,000. Le dentiste travaille environ 250 jours par année, à raison de six heures par jour, soit un total de 1500 heures. La moyenne d'heures consacrées par semaine au fauteuil, toujours d'après le relevé de l'A.D.C., se fixe à 34.2 ou 6.2 heures, par jour.

Alors, si nous reprenons le calcul depuis le début, nous avons le tableau suivant:

revenu personnel:	10,000
dépenses de bureau:	13,000
intérêts sur capital:	1,000
impôt sur le revenu:	2,000

total des revenus \$26,750

La moyenne des honoraires par heures de travail au fauteuil s'établit donc à: $26750/1500 = \$17.8$ de l'heure

Chaque dentiste peut appliquer comme il l'entend cette base pour le calcul de ses honoraires; il peut, par exemple, augmenter le nombre d'heures de travail et diminuer ainsi la moyenne de ses honoraires par heure. Il est aussi libre aussi de comprimer ses dépenses pour arriver au même résultat.

Mais nous avons cru que cette technique qui a été suggérée par le docteur T. R. Marshall, à la demande du Comité d'Etude sur l'Assurance-Santé, pourrait intéresser les docteurs du Journal à un moment où ce problème se pose de nouveau à eux.

GÉRARD de MONTIGNY.

Nouvelles du Corps dentaire royal canadien

Le brigadier K. M. Baird, directeur général des Services dentaires, est rentré au Canada le 16 juin à la suite d'une tournée d'inspection des unités du Corps dentaire royal canadien, en France et en Allemagne. Il a fait la revue de la 4^e Compagnie dentaire de campagne, commandée par le lieutenant-colonel R. H. G. Cunningham, et de la 35^e Unité dentaire de campagne, commandée par le lieutenant-colonel G. R. Covey.

* * *

Le Quartier général de l'Armée annonce que le colonel J. A. MacGowan, du Corps dentaire royal canadien, prend sa retraite le 20 juin 1959.

Le colonel MacGowan est né à Tweed (Ontario). Il a fait ses études à Toronto et a obtenu ses diplômes de l'Université de cette ville en 1926. Il est affecté au Corps dentaire en 1940, et se rend au Royaume-Uni en 1943, où il accomplit du service dans divers éléments de l'Aviation royale canadienne. De 1950 à 1954, il est dentiste de la Région militaire des Prairies, à Winnipeg, puis il rentre à Ottawa, où il passe à la Direction des services dentaires. Depuis 1957, le colonel MacGowan occupe le poste de dentiste de la Région militaire du Centre, à la 13^e compagnie dentaire, à Trenton (Ontario).

Tous les membres du Corps dentaire souhaitent au colonel et à Mme MacGowan tout le succès possible dans la vie civile.

* * *

Pendant la deuxième moitié du mois de juin, le colonel G. B. Shillington, sous-directeur général des Services dentaires, a fait la revue des militaires et des installations du Corps dentaire affectés aux unités de la M.R.C., de l'Armée et de l'ARC, à la 12^e compagnie dentaire dans la Région militaire de l'Est. La 12^e compagnie, dont le quartier général se trouve à Halifax, est commandée par le lieutenant-colonel W. M. Sinclair. Pendant sa visite, le colonel Shillington a représenté le Directeur général au Congrès

de l'Association dentaire canadienne, à Halifax.

* * *

Le Quartier général de l'Armée annonce la promotion du lieutenant-colonel T. L. Marsh au grade de colonel, à compter du 21 juin 1959, et du major L. G. Craigie au grade de lieutenant-colonel, le 22 juin.

Le colonel Marsh est né en Angleterre. Il a fait ses études universitaires et post-universitaires à l'Université de Toronto, où il obtient le doctorat en chirurgie dentaire en 1932, puis, en 1952, le doctorat en hygiène dentaire publique. Il pratique à Toronto, de 1932 à 1942, alors qu'il est nommé au Corps dentaire, dans lequel il fait du service au Canada et au Royaume-Uni. Depuis sa nomination à l'Armée régulière du Canada, en 1946, le lieutenant-colonel Marsh a rempli les postes d'instructeur à l'école du Corps dentaire royal canadien, de commandant de la 1^{re} Unité dentaire de campagne, en Allemagne, et de Chef en hygiène dentaire publique à la Direction des Services dentaires, à Ottawa. Le colonel Marsh continuera d'occuper son poste actuel de dentiste militaire de la Région du Québec et de Commandant de la 15^e Compagnie dentaire, dont le quartier général est à Montréal.

Le lieutenant-colonel Craigie est né à Kamsack (Saskatchewan) et il fait ses études en art dentaire à l'Université de Toronto, où il a obtenu son diplôme en 1942. Pendant ses années d'études, il a fait partie du contingent du Corps-école d'officiers canadien de l'Université de Toronto et, à sa sortie de l'Université, il a été nommé au Corps dentaire. Depuis, il a rempli plusieurs fonctions à la Région militaire des Prairies, à la Région militaire de l'Ouest et en Allemagne. C'est depuis 1956 qu'il occupe son poste actuel d'instructeur en pratique dentaire, à l'école du Corps dentaire. Le lieutenant-colonel Craigie est marié et père de trois enfants; il demeure au Camp Borden.

Rapport du Congrès dentaire australien tenu à Adelaide, du 22 au 27 février 1959*

par HOWARD T. OLIVER, D.D.S., Montréal

Permettez-moi, à titre de votre représentant et de celui du Collège, de vous soumettre un rapport au sujet du quinzième Congrès dentaire australien qui a été tenu à Adelaide, du 22 au 27 février dernier.

Ce Congrès fut précédé d'un séminaire dentaire de l'Organisation Mondiale de la Santé, auquel assistaient des représentants de vingt-cinq pays différents; la plupart de ces délégués participèrent ensuite au Congrès. En votre nom et comme seul dentiste canadien présent à ces assises, j'ai invité plusieurs confrères, à l'occasion de voyage en Amérique du Nord, à venir dans la province de Québec visiter nos deux facultés dentaires. J'ai fait part de cette invitation particulièrement aux dentistes des Iles Fiji, de l'Indonésie, de Nouvelle-Zélande, d'Australie, de Ceylon, des Indes, du Pakistan, des Philippines, de Thaïlande, du Viet-Nam et de Singapour.

J'ai transmis votre message à Vancouver, C.-B., en Nouvelle-Zélande (à la faculté dentaire de l'Université d'Ottago), au 15e Congrès dentaire australien (à Adelaide), devant la Société d'Orthodontie australienne et à la faculté dentaire de l'Université de Witwatersrand, en Afrique-du-Sud. On m'a témoigné partout la plus cordiale hospitalité et j'ai eu le plaisir de constater toute l'estime qu'ont les étrangers pour les Canadiens.

Les dentistes qui assistaient à la réunion de l'O.M.S. ont été unanimes à condamner la consommation excessive de suçons, de chocolat, de biscuits, de gâteaux et de sucre sous toutes ses formes. On constate que les dents permanentes de l'enfant australien, à la fin de son cours primaire, sont dans une proportion de cinquante pour cent, cariées, obturées ou extraites. Cette situation pourrait se corriger en partie par l'application des principes raisonnables d'alimentation et, dans une autre proportion, en fluorant l'eau de consommation. A l'âge de 40 ans, cinquante pour cent des Australiens et des Néo-Zélandais portent des prothèses complètes. Je n'ai pas cité de chiffres au

sujet des enfants de la province de Québec.

Plusieurs dentistes de Nouvelle-Zélande ont déclaré qu'ils n'hésiteraient en aucun temps à se faire obturer des dents par les infirmières dentaires diplômées de ce pays; mais on m'a dit que ces jeunes filles étaient choisies parmi un grand nombre de candidates par l'excellence de leur dossier scolaire, leur dextérité manuelle, leurs dispositions sociales et leur sens de la moralité. On peut constater facilement, à cause de l'aspect géographique de la Nouvelle-Zélande, que les initiatives prises pour améliorer la santé dentaire de la population sont suivies méthodiquement. Les villes sont peu importantes et clairsemées. Les dentistes ne semblent pas se plaindre de l'aide que leur apportent ces demoiselles, mais on souligne que ce système n'aurait pas le même succès en Amérique: la profession dentaire, à cause de la population nombreuse et de l'étendue des pays, ne pourrait pas contrôler adéquatement l'exercice de ces infirmières.

Aucun des dentistes que j'ai rencontré ne prisent une organisation dentaire contrôlée par l'Etat, par lequel le patient ne paie pas certains honoraires directement au dentiste. Le public est sous l'impression, avec un tel système, que l'entretien de ses dents est la responsabilité des dentistes et non la sienne.

En Afrique-du-Sud, tous les traitements médicaux et dentaires sont gratuits pour les indigènes; les Européens doivent payer et en fait paient pour leurs propres traitements.

J'ai été surpris de la qualité de l'enseignement dentaire qu'on donne aux étudiants d'Afrique-du-Sud. Il y a une abondance extraordinaire de patients dans les cliniques. Les professeurs ont reçu leur formation, soit en Amérique, soit en Europe ou dans leurs propres universités.

En terminant, permettez-moi de vous dire tout le plaisir que j'ai eu d'être votre délégué; je suis certain que plusieurs dentistes étrangers connaissent déjà la province de Québec et ont entendu parler de ses deux excellentes facultés dentaires.

Rapport présenté au Collège des Chirurgiens-Dentistes de la province de Québec.

Nouvelles de l'Association

Red Deer, en Alberta, fluorure son eau

Apparemment, la première ville d'Alberta à approuver par plébiscite la fluoruration et à la mettre en œuvre est la ville de Red Deer, qui compte 12,000 habitants. La fluoruration de l'eau de consommation de la ville a commencé en juin dernier, sans annonce officielle. Le service d'aqueduc n'a pas reçu de plaintes et on a fait part au public de cette nouvelle mesure que six semaines après. L'appareil qui ajoute du fluor à l'eau coûte environ \$4,500. Le fluor lui-même coûte environ \$20.00, par mois. On analyse l'eau régulièrement pour s'assurer de sa teneur en fluor. La ville de Fairview, en Alberta, a aussi commencé à fluorurer l'eau

de son aqueduc au bénéfice de ses 1,000 habitants.

Bienvenue au Bulletin de Nouvelles de l'Association dentaire de Colombie britannique

L'Association dentaire de Colombie britannique vient de réaliser un nouveau progrès en publiant son bulletin sous forme d'imprimé. Jusqu'ici, ce bulletin était miméographié. Le nouveau format a une apparence distinguée et professionnelle. Félicitations à l'Association et au rédacteur du bulletin, le Dr Munro.

Le premier numéro du bulletin rapportait que le Congrès de l'A.D.C.B. avait attiré, cette année, le plus grand nombre de dentistes jamais vu, soit 390.



Congrès de l'Association dentaire de la province de Québec

Photographie prise à l'occasion du Congrès de l'Association dentaire de la province de Québec tenu aux Trois-Rivières, en mai dernier.

On remarque, de g. à d.: le docteur Conrad Godin, vice-président de l'Association, le docteur Roger Charette, nouveau président de l'Association; le docteur George M. Dewis, président de l'Association dentaire canadienne; le docteur Roland Baribeau, président sortant de charge de l'Association; le docteur Charles Tessier, trésorier de l'Association.

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The Other Side*

DON W. GULLETT, D.D.S.**, Toronto, Ontario

Editor's Note

We are grateful to the British Columbia Dental Association for bringing to our attention the following address by the Secretary of the Canadian Dental Association. The significance of these words should be appreciated by all Canadian dentists.

INTRODUCTION

An article in the current issue of the Reader's Digest by Senator Neuberger, tells about his difficulties with the Indians in Northern Canada — until he mentioned the name of a certain Mountie and then they could not do too much for him. He asked this Mountie why—and the Mountie said that it was because in all his relationships, no matter how right he knew himself to be, he always kept in mind one thought: "The other fellow may be right".

Often a man is logical in his approach to public affairs at all times except when the matter under discussion directly affects himself or his immediate family. Strange as it may seem he then becomes most illogical. Sometimes professions take on a similar characteristic. By his training the dentist, like other professional men, is moulded into one circumscribed field of practice. On an expert level he sees clearly his side of any question but does he see the other side with clarity? In a democracy two sides always exist to every question. To see one side is not enough. In order to support the side you know to be right it is necessary to see and under-

*An address delivered at the Annual Convention of the British Columbia Dental Association on Saturday, May 30th, 1959.

**Secretary, Canadian Dental Association.

stand the other. Hard, rigid arguments expressed dogmatically win few satisfactory conclusions in dealing with health problems. We must not be like the man who said "My mind is made up and do not confuse me with the facts".

With this thought in mind I should like to present two statements which have general significance and are most applicable to the position of the profession today. First, the needs, or demands if you wish, of the people for dental care will be met. We probably all realize the truth of this statement. Certainly we know that the profession is delegated with the responsibility of providing adequate dental services, but do we see both sides of the matter clearly? Or are we inclined toward destructive criticism of those who try to find a solution? This is the immediate responsibility of every member of the profession and is not some far-off thing in the distant future.

Secondly, a general economic rule in affairs is that when something can be done just as satisfactorily and efficiently more cheaply it will be ultimately done by that method. Such statement will not be found in any dental text-book but the history of affairs teaches that it is generally true. Let us look at these two general statements in reference to the profession.

OBLIGATION

The first, that the needs or demands of the people will be met, has to do with the prime obligation of a profession. It is the first obligation of a profession to supply services to the public in adequate amounts. This is the reason for the very existence of a professional group. Finding the means of supplying this service is our responsibility. Our obligation does not cease when we have pointed out the need to some agency or authority for we must continue the effort to fruition through discouragements if they arise.

One phase of this matter, namely recruitment to the profession, has become a seri-

ous problem. Data are available which show that the academic quality of applicants for dentistry has fallen drastically during recent years. As a matter of fact it is shown that this has happened in other health professions as well but the drop is most acute among dental applicants. The most frequent reasons stated for not considering a career in dentistry by both bright young students and their parents are: that dentistry is hard work both as a student and in practice; that they think the chances of making money better in some other vocation; and that the future of the health professions appears disturbed. There are some who say that the youth today are looking only for a soft job and lots of money. I doubt the truth of this statement but if they are, the present generation of adults taught them to think that way.

A key question in respect to recruitment is what the individual dentist is doing about it! Is he selecting the bright boy and trying to interest him in dentistry? The evidence is that he is not. When the brilliant young person asks him about his own profession does he enthusiastically take time to talk about his profession or does he discourage? Generally speaking, it is said that dentists are not encouraging young persons to pursue a career in dentistry. And yet most of us are here today through the direct or indirect influence of some dentist.

Probably by lowering admission standards we can fill classes in our schools, but unless we can attract a proper proportion of applicants with good academic standing our future as a profession is going to be drastically affected. A proportion of high calibre students in a class lifts the whole class. We can produce career pamphlets, show vocational films and arrange talks on dentistry as a career but unless the individual dentist in his practice, in his social life and generally speaking in his community activities, takes an interest in recruiting the proper type of student, all other efforts will be of little consequence.

An expansion in dental schools is taking

place at the present time. Training facilities of proper standard is another obligation both as to efficiency and in availability. The anticipated number of graduates from these expanded facilities will do little if anything, to improve the ratio relationship of dentist to the Canadian population. The actual increases in population are outrunning the predicted population increases. Over the next 10 to 15 years we will do well to retain the present ratio unless more teaching facilities become available or some other means of alleviating the situation becomes available.

Recruitment of students and adequate training facilities for future members of the profession are two prime requisites in providing service. The providing of services where need exists, the demands for services by new methods and the various social implications involved is a subject in itself. However I do want to say that a strenuous effort has been made in British Columbia to provide services where need existed which is most creditable. This action speaks well for the acceptance by the profession of its responsibility. The dental profession has been slow admittedly, in attempting to meet demand for services in new forms in keeping with social trends. However we now have some eight plans of one kind and another in operation across the country with one or two more in development. These plans are at least partially experimental. Experience in administration is badly needed, if we are to take care of our own affairs. Doubtless these plans will go through a series of alterations as experience is gained. In the opinion of those who have studied trends of today it is necessary for the profession to venture into this new field of activity.

ABSOLVING RESPONSIBILITY

A trend exists in society today to run to the government for solution whenever difficulty arises. This is an escape method. People who think in such terms forget that the government does not produce. Individ-

uals and individual groups are the producers. Government may help an emergency but individual ingenuity is the factor which produces a successful operation of any kind. The society made up of individuals who solve their own problems is unquestionably a good society.

Noticeably, of recent development, there has been an element within the profession who voice this same idea. Recently in a fairly large sized group of dentists in an area where we have real trouble the trend of thinking appeared to be — "I am fed up, if they think they can do better, let them do it". "Them" — meaning the government. Freedom of the individual dentist was not won with this kind of attitude and it will not be retained very long if many take such position.

In society the individual seems to count for less and less. If this is true then we make it so and professional men should have no part of it. Edmund Burke once said "Nothing else is necessary to create evil than for good men to do nothing". Even in society today nothing is more forceful than individual effort in meeting the realities we as a profession face.

At the last Annual Meeting in Montreal an opinion survey was conducted. A question related to the benefit of a national health plan was asked. Perhaps the question was interpreted in various ways but there is no question respecting the answer no matter how the interpretation was made. Out of 243 answers from dentists 162 (exactly two thirds) said yes. They did this without any knowledge of how such a plan would be administered. The dentists making response represented a wide area — 10% from Western Canada, 80% Central Canada, 8% Eastern Canada, and 1% U. S. A. Your interpretation of the meaning is as good as mine.

An important point in all these current pressures is that some evidently believe they can shed responsibility by hiring some individual to do what they themselves must do. Such procedure has grave dangers. It is dangerous to permit any man to speak for and in the name of the profession unless he is well-qualified in

dental affairs. The profession has had some experience in this matter. Laymen who have taken positions with professional bodies are the first to state this matter emphatically. Perhaps the best qualified man on this continent in this capacity in the dental field recently said that it took five years continuous full-time employment before it was safe to let him loose. Critically the profession needs expert help and advice from several areas of knowledge but those occupying official positions within the profession must assess the knowledge for utilization. In view of some events this cautionary word appears necessary.

THE DEMAND

During this meeting you have heard a survey report containing factual evidence obtained from a representative section of the population as a whole. In making a hurried observation on the report, I hope you will not interpret my statement as being derogatory, for I believe the report contains excellent subject matter for study. But this report only contains partial answers and should be interpreted as such. There are many qualifying factors and each answer should be properly assessed against all possible factors related thereto. One of these qualifying factors is that only approximately 20% of the people receive adequate dental care, and consequently are in a position to properly judge dental service. Another 15% of the population receive casual dental service during any one year and have some little knowledge of dental services. Consequently a very high percentage of the population as a whole have little real knowledge of the meaning of dental service. This situation is a qualifying factor to be assessed against the survey answers.

In other words, the report itself is important, but only as a basis for study. In order to make intelligent use of such a report the profession needs a group of experts on some level, national or provincial, who possess knowledge in particular areas and know dentistry well. The estab-

lishment of such a personnel group is a difficult matter indeed, but without such expert advisory service we will continue to run the chance of travelling off on ill-advised tangents.

Briefly let us examine the second statement. A general economic rule in affairs is that when some thing can be done just as well more cheaply it will ultimately be done by that method. I hope you will realize that in using these statements I am attempting to bring you face to face with the other side. In relation to the first statement we considered a few of our obligations. Here is a generally accepted rule which relates to how we perform in our practices.

There is a shortage of dental personnel in Canada and it has already been pointed out that this shortage is not going to be corrected in the near future. Basically, shortage of hands to do the job is the cause of the serious problems we face today. The question arises, are we making the best use of the available personnel. The matter really divides itself into two parts. First, the tools with which we work and secondly, the best utilization of qualified personnel. The point really is one of timesaving with resulting increased services to more people.

First, the tools to do the job. Recently, what is known as "high-speed" has been introduced and this development goes part way to answer one side of the question. On the research level we are told that other aids are on the way which will be timesaving with less strain and effort on the dentist. It appears that we are rapidly solving the mechanical part of the problem and will continue to do so.

The second part concerning the best use of qualified personnel appears to be more difficult. In all frankness we must ask ourselves if we are providing sufficient leadership. Proven facts are available to show the time savings and improved economic relationship to dental practice when auxiliary personnel is properly utilized. However it appears difficult to create much enthusiasm among members of the pro-

fession, in spite of the great praise coming from those dental practices where full utilization of auxiliary personnel is employed. To some the situation seems almost anachronistic for this day and age.

The other side say that highly, expensively trained dentists are spending a great deal of time doing work or services which can be done equally well by persons with less training. This is a pertinent matter because there is ample evidence that many outside the profession believe it. This matter is basic to much of our legislative difficulties today. The point is that leadership in solving the matter should come from the profession and not from those outside the profession. The fact is a solution is going to come and we do not need a prophet to inform us. Leadership from the profession can mean some sanity and order in the result. Negative fighting only delays what can become a disruptive force to sane dental practice.

After much turmoil and arduous effort in obtaining agreement the Canadian Dental Association issued a policy statement on auxiliary personnel which has been circulated to the membership. Two or three short paragraphs from this statement bear re-reading for emphasis:

"In the considered opinion of the Association, the best interests of the public demand that dental care be provided under the responsibility of the one group of persons qualified by education, licensure and experience to have full regard for the dental and total health of the patient. This best interest of the public will not be served by fractionating this responsibility of the dental profession for this can lead only to a lowering of the standard of service to the patient.

"This concept requires, therefore, that all auxiliary personnel used in making dental service available should serve as personnel integrated under the supervision or direction of a fully qualified dentist.

"The diagnosis and prognosis of dental conditions and diseases must always be the responsibility of the best qualified person, namely the dentist. Treatment procedures must be controlled by the dentist with only such delegation of duties to auxiliary personnel as are permitted by statute and ethics."

Policy statements are more important than most dentists realize. They represent a basis for decisions in the activities of the Association. They also make known to those outside the profession our stated position. These are important points particularly under the disturbing conditions in the health field today. Such statements either mark progress or retrogression. What this policy statement really says in principle is that authority can and must be divided but responsibility can never be.

CONCLUSION

Fear and complacency exist among dentists in varying degrees today. Fear is a most unbecoming attribute in a professional man. Complacency is an enemy to professional progress. Surely if the future appears dangerous, and it does, then educated men should meet it head on, and provide the leadership.

Someone said that the world depends more upon attitudes than skills. With all the strength at my disposal let me say that service displays our attitudes. Only dentists as individuals can give expression to the attitude of dentistry. When I was a youth I lived in a canning district and worked in a canning factory. I remember an advertising agent trying to influence the owner, who was an older man, to go into a large advertising campaign. The old man replied, "I think we had better concentrate on what goes in the can and perhaps we will not need the advertising." Attitudes are created by actions, particularly in the professional world. Perhaps we as a profession, have concentrated on

skills to such extent that our attitudes are misunderstood. Initially those on the other side formulate their attitudes from actions taken by members of the dental profession. Improvement in attitude will

come from the acts of individual dentists and only from that source. Service is the rent we pay for the room we occupy in life.

234 St. George St.

The Riverside Preschool Dental Project*

*F. H. Compton, D.D.S., R. C. Burgess, D.D.S., Trudi G. Mondrow, R.D.H.,***

*R. M. Grainger, D.D.S., and Gordon Nikiforuk, D.D.S.***

Dental and oral disorders are characterized by recurrent and frequently destructive processes comprised of three components — dental caries, malocclusion and periodontal disease. At least one of these, dental caries, is unique in the realm of chronic disease because of a universal attack rate, because of inability of dental tissues to respond to this attack with self-repair, because treatment needs repeatedly recur, and because treatment does not lend itself to mass therapy. The dental triad is further linked by distinct cause and effect relationships, but due to a predilection for the initial decades of human life dental caries is basic in varying degrees to nearly every other oral defect.

These characteristics are particularly significant to the planning of a community-dental health program. Clearly the problem must be attacked at source through timely application of the most effective preventive and control measures at our command. Since the onset of cariogenic attack closely succeeds the eruption of the deciduous dentition, it follows that the target of our endeavour must be the pre-school child. The measures to be taken fall into educational, prophylactic and therapeutic categories. From health unit dental programs in rural Ontario good evidence is available that educational and diagnostic programs for preschool children promote better utilization of dental practitioner services thus elevating the general level of dental care (1, 2, 3). This in itself is sufficiently important from the standpoint of minimizing subsequent complications which otherwise arise from neglect of timely treatment. Of added significance, however, is a tendency to de-

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**From the Department of Public Health (City of Toronto), the Division of Dental Research (University of Toronto) and the Department of Health (Ontario).

press the incidence and prevalence of dental caries since this also reduces treatment need, thereby facilitating a lifetime saving in family expenditure for dental care. In rural areas, therefore, it is evident that a population which is sufficiently static and ethnically homogeneous, which also enjoys a reasonable supply of private practitioners, responds favourably to the introduction of a preschool educational program.

In view of the disparity between available dentists and a growing population, water fluoridation, dental health education, topical fluoride administration and efficient utilization of private practitioner resources assume major significance in any consideration of community dental health in Toronto. The demographic characteristics of greater Toronto are, however, unique in many respects. It is estimated that a quarter million immigrants have come to this area since 1945. Most of these families have settled in the city proper, displacing younger native-born families who have moved to the suburbs. Currently, one in every five residents of the metropolitan area is a newcomer from overseas, but the proportion within the city is likely much greater. Locally, we are confronted with population turnover of major proportions and with large numbers of families who are unfamiliar with the English language and who try to adapt themselves to a new and strange environment. In these circumstances it was by no means certain whether an educational program would make the type of impression demonstrated in rural areas. Nevertheless, it was considered important to assess the effectiveness of selected teaching and demonstration techniques for the purpose of improving the level of dental health of preschool children in a densely populated urban environment with a mobile and ethnically diversified population.

The City of Toronto is divided for administrative purposes into eight health districts. Riverdale District, bounded to the north, west, south and east respectively by the Township of East York, the

Don River, Lake Ontario and Greenwood Avenue, presented a range of social, economic and ethnic features which mirrored those of the city at large. This area was selected as the site of a diagnostic and educational demonstration project, with two other districts serving as controls. The control districts selected were Yorkville District — a socio-economically favoured area in North Toronto, and Moss Park District — a generally depressed area adjacent to Riverdale.

Published reports have also indicated that topical application of stannous fluoride solution, once a year, effects a fifteen to fifty per cent reduction in the rate of permanent tooth decay for children aged six to fifteen years (4, 5, 6, 7). In view of the time consuming procedure necessitated for administration of sodium fluoride, it seemed important to determine whether annual single topical applications of eight per cent stannous fluoride solution would provide similar protection to the deciduous teeth of preschool children. It was recognized that the outcome of such an investigation might have important implications for public health and private dental practice. A clinical trial was therefore initiated in the fall of 1957 among preschool children participating in the diagnostic and educational demonstration project.

I. THE DIAGNOSTIC AND EDUCATIONAL DEMONSTRATION PROJECT

Material and Method

This project, which commenced in September, 1955, under co-sponsorship of the Toronto East Dental Association and the Department of Public Health, was financed through a federal public health grant and supplemented by civic appropriations. A dental hygienist, dental assistant and clerk were engaged as field personnel to conduct intensive educational, case-finding, referral and follow-up procedures for preschool children brought to district child health centres for routine health supervision and immunization. Material assistance was

rendered by numerous community agencies as well as the local press in recruiting preschool children to the program.

The clerical member of the team was established at headquarters in the Toronto East Health and Welfare Centre. The hygienist and her assistant embarked on a weekly round of all district child health centres where preschool children were examined and parents interviewed with a view to establishing the desired pattern of continuing dental supervision. In connection with parent counselling, attention was directed to maintaining the integrity of the deciduous dentition, consumption of calcium, phosphorus, vitamins A, C and D, management of between meal snacks, oral hygiene practices and management of potentially deleterious habits. Considerable use was made of available dental health teaching aids and pertinent literature was reproduced in six foreign languages for the convenience of recent immigrants. Each child's dental findings were recorded on a conventional Hollerith punch card system and appropriate master records were set up at headquarters. Those requiring dental care were given a preschool dental postcard to be signed and returned by the attending family or clinic dentist on completion of treatment. A follow-up routine was instituted at ninety, one hundred and twenty and one hundred and fifty day intervals to induce adherence to the recommendations given by the hygienist at the interviews. As a further benefit, children whose treatment was completed or who did not require treatment became eligible for topical fluoride administration. Two per cent sodium fluoride was employed for the first two

years. During the third year eight per cent stannous fluoride was substituted in connection with an investigation of the caries-inhibiting property of this agent. Through the master records, an annual recall system was established. Every effort was made to re-examine each child annually until he entered kindergarten where the final examination was made by the hygienist.

During the three-year period under review 5,423 children were seen. 3,236 children, or three out of every five children, were in the age group two to four. 2,238 children had no apparent defects, 1,966 children were referred for dental care and at August 31, 1958, 970 had had all their defects corrected. (Table I.) Annual recall appointments permitted second examination for 1,592 children and third examination for 476 children. The willingness of most parents to return for these re-examinations with their preschool children, even though this often entails making other arrangements to care for younger children left at home, has been one of the most pleasing features of the whole program.

Routine school dental inspection in 1958 disclosed that about one quarter of the Riverdale kindergarten children had previously been seen in the preschool project. The attainment of a twenty-five per cent participation level in the third year of the project is noteworthy since less than forty per cent of current birth registrations in that district proceed to child health centres.

Interest was not confined to preschool children alone. Demonstration dental

TABLE I
CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH
RIVERDALE PRESCHOOL DENTAL PROJECT, 1955-58

	1955-6	1956-7	1957-8	1955-8
Total children seen	1,368	1,773	2,282	5,423
Children with no apparent defects	405	863	970	2,238
Children referred for dental care	470	544	952	1,966
Children with dental care completed	196	320	454	970

health lessons were given annually in every kindergarten class. Assistance was extended to teachers in the procurement of suitable dental health teaching aids. The kindergarten teacher at one school supervised routine tooth brush drill during two years until she was transferred to another area. Elsewhere two Grade five classes participated in a nutrition and salivary lactobacillus experiment as a result of which one third of the participating children succeeded in reducing and maintaining their salivary lactobacillus counts at zero for a period of nine months through voluntary adherence to Canada's Food Rules.

FINDINGS AND DISCUSSION —

A. External Assessment.

It was considered that pooled data obtained in the course of routine annual

random sampling of the Toronto school population by the use of multiple examiners would best serve as an external assessment of the project. Each year since 1955, it has been the custom to select a group of elementary and secondary school children through random sampling of the total school population (sampling ratio 1:7, odd age groups only) for the procurement of reliable estimates of a variety of dental conditions in the city and in each health district. (8, 9). It was therefore decided to maintain close scrutiny of findings from five-year-old kindergarten children in Riverdale for the duration of the project, and to make periodic comparison between the findings from five-year-old kindergarten children in Riverdale and the two control areas, Moss Park and Yorkville Health Districts. In 1958, the third year of the project, one hundred and nineteen kindergarten children were examined in Riverdale Health District in the course of

TABLE II
SELECTED DENTAL HEALTH INDICES
CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH
RIVERDALE HEALTH DISTRICT, 1958
5-YEAR OLD KINDERGARTEN CHILDREN

Number examined	Combined sample	Project	Non-project
	119	37	82
A. TREATMENT LEVEL	Percent	Percent	Percent
No dental defects	33.61	37.84	31.71
No caries defects	39.50	51.35	34.15
Visited dentist	47.06	64.86	39.02
Complete caries neglect	31.09	13.52	39.03
Deciduous tooth mortality	31.93	35.13	30.49
	Average	Average	Average
Permanent and deciduous teeth needing restoration	2.77	1.62	3.29
B. DENTAL CARIES PREVALENCE	Percent	Percent	Percent
Caries-free children	21.85	21.62	21.95
	Average	Average	Average
def teeth per child	4.86	4.16	5.18
C. MALOCCLUSION	Percent	Percent	Percent
Abnormal occlusion	15.13	18.92	13.41
D. PERIODONTAL CONDITIONS	Percent	Percent	Percent
Poor oral hygiene	27.73	24.32	29.27

TABLE III
 SELECTED DENTAL HEALTH INDICES
 CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH
 RIVERDALE HEALTH DISTRICT
 5-YEAR OLD KINDERGARTEN CHILDREN

Number examined	1955	1956	1957	1958
	105	114	78	119
A. TREATMENT LEVEL	Percent	Percent	Percent	Percent
*No dental effects	19.05	23.68	33.31	33.61
*No caries defects	24.76	33.33	39.74	39.50
Complete caries neglect	35.23	41.23	33.34	31.09
Deciduous tooth mortality	42.86	30.70	32.05	31.93
Permanent and deciduous teeth needing restoration	Average 3.30	Average 2.53	Average 2.41	Average 2.77
B. DENTAL CARIES PREVALENCE	Percent	Percent	Percent	Percent
Caries-free children	14.29	16.67	21.79	21.85
def teeth per child	Average 5.40	Average 4.55	Average 4.45	Average 4.86
C. MALOCCLUSION	Percent	Percent	Percent	Percent
**Abnormal occlusion	30.48	21.93	21.79	15.13
D. PERIODONTAL CONDITIONS	Percent	Percent	Percent	Percent
**Poor Oral Hygiene	40.00	25.44	26.92	27.73

*Changes in these criteria during the period 1955-58 are beyond chance.

**Changes in these criteria during the period 1955-58 border on statistical significance.

routine sampling of the school population. Thirty-seven of these children had previously participated in the preschool project whereas the other eighty-two had not participated. A comparison of the two groups very clearly demonstrates the beneficial influence of the project upon treatment level in the participating group, as illustrated in Table II.

From a simple longitudinal analysis of findings in Riverdale, as summarized in Table III, it is apparent that there has been statistically significant improvement in the level of dental care (no dental defects, no caries defects) in all five-year-old kindergarten children. This improvement derives from the bettered condition of the

project participants, since the status of the non-participants generally corresponds to the original 1955 starting group. The decline in abnormal occlusion and poor oral hygiene is comparable to the above trend but is not quite statistically established to date. Similar but, as yet, non-significant changes in caries prevalence (caries-free children, def rate) are also evident.

A lateral comparison with the two control areas, as summarized in Table IV, indicates that dental health conditions did not alter appreciably in children of similar age residing in Moss Park and Yorkville Health Districts.

TABLE IV

SELECTED DENTAL HEALTH INDICES
CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH: RIVERDALE, MOSS PARK
AND YORKVILLE HEALTH DISTRICTS
5-YEAR-OLD KINDERGARTEN CHILDREN

Number examined	1955	1955	1955	1958	1958	1958
	Riverdale 105	Moss Park 91	Yorkville 140	Riverdale 119*	Moss Park 92	Yorkville 132
A. TREATMENT LEVEL	Percent	Percent	Percent	Percent	Percent	Percent
No dental defects	19.05	27.47	54.29	33.61	31.52	50.76
No caries defects	24.76	31.87	63.57	39.50	33.70	56.06
Complete caries neglect	35.23	45.05	22.86	31.09	51.09	24.24
Deciduous tooth mortality	42.86	35.16	16.43	31.93	28.26	14.39
Permanent and deciduous teeth needing restoration	Average 3.30	Average 3.25	Average 1.15	Average 2.77	Average 2.66	Average 1.51
B. DENTAL CARIES PREVAL.	Percent	Percent	Percent	Percent	Percent	Percent
Caries-free children	14.29	20.88	32.14	21.85	17.39	37.12
	Average	Average	Average	Average	Average	Average
DMF teeth per child	0.13	0.12	0.03	0.19	0.23	0.05
def teeth per child	5.40	5.10	3.10	4.86	4.25	3.12
C. MALOCCLUSION	Percent	Percent	Percent	Percent	Percent	Percent
Abnormal occlusion	30.48	14.29	12.86	15.13	9.78	12.88
D. PERIODONTAL CONDITIONS	Percent	Percent	Percent	Percent	Percent	Percent
Poor Oral hygiene	40.00	29.67	7.14	27.73	25.00	9.09
*Of these 119 children, 37 had participated in the Preschool Project.						

B. Internal Assessment.

The recorded findings from all Riverdale preschool children examined by the dental hygienist were utilized for an internal evaluation of the project. The subjectivity of such recordings from a single examiner is recognized as a possible source of bias. Moreover, a simple comparison of the crude year by year data was inconclusive as illustrated in Table V. It was, however, observed that some children did not begin to participate until the project had been underway for two or three years. Frequently, these children presented with deplorable mouths which tended to mask

improvements observed in other children who returned for annual re-examination a second or third time. An analysis of first, second and third examinations among four-year-old preschool children during the year 1957-58 as shown in Table VI, tends to support this view. In that event, the examination findings recorded by the dental hygienist appear to confirm the observations derived from the external evaluation that a teaching and demonstration program directed to preschool children in a densely populated urban area tends to elevate their level of dental health during an initial period of three years.

TABLE V
 SELECTED DENTAL HEALTH INDICES
 CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH
 4-YEAR-OLD RIVERDALE PRESCHOOL
 DENTAL PROJECT CHILDREN

Number examined	1955-6	1956-7	1957-8
	239	348	493
A. TREATMENT LEVEL	Percent	Percent	Percent
No dental defects	30.12	42.24	29.21
No caries defects	30.96	43.10	32.05
Complete caries neglect	58.58	37.93	47.87
Deciduous tooth mortality	15.06	16.63	18.66
	Average	Average	Average
Permanent and deciduous teeth needing restoration	2.44	1.63	2.55
B. DENTAL CARIES PREVALENCE	Percent	Percent	Percent
Caries-free children	26.78	30.75	23.33
	Average	Average	Average
def teeth per child	3.02	2.85	3.94
C. MALOCCLUSION	Percent	Percent	Percent
Abnormal occlusion	44.77	28.45	26.57
D. PERIODONTAL CONDITIONS	Percent	Percent	Percent
Poor oral hygiene	29.71	14.37	30.43

TABLE VI
 SELECTED DENTAL HEALTH INDICES
 CITY OF TORONTO DEPARTMENT OF PUBLIC HEALTH
 FINDINGS FROM 493 4-YEAR-OLD RIVERDALE PRESCHOOL
 DENTAL PROJECT CHILDREN EXAMINED IN 1957-8

Number examined	1st Exam	2nd Exam	3rd Exam
	190	216	87
A. TREATMENT LEVEL	Percent	Percent	Percent
No dental defects	20.53	31.94	41.34
No caries defects	21.58	35.65	45.98
Complete caries neglect	68.95	39.35	22.99
Deciduous tooth mortality	26.84	16.67	5.75
	Average	Average	Average
Permanent and deciduous teeth needing restoration	3.52	2.04	1.71
B. DENTAL CARIES PREVALENCE	Percent	Percent	Percent
Caries-free children	20.00	23.15	31.03
	Average	Average	Average
def teeth per child	4.58	3.61	3.36
C. MALOCCLUSION	Percent	Percent	Percent
Abnormal occlusion	26.84	26.39	26.44
D. PERIODONTAL CONDITIONS	Percent	Percent	Percent
Poor oral hygiene	36.32	25.93	28.74

SUMMARY

A comprehensive preschool diagnostic and educational program was initiated in the Riverdale Health District of Toronto in 1955 to determine the value of this procedure for improving dental health conditions in preschool children of diversified ethnic origin residing in a densely populated urban environment. This was preceded by extensive preliminary contact work to interpret the purpose and nature of the undertaking to lay and professional community organizations. Apart from the preschool project, existing dental services and facilities in the Riverdale area and in all other health districts remained essentially unchanged.

The introduction of a dental hygiene team to Riverdale Health District served as a focus for the development of community dental health activities and visibly improved the utilization of available dental resources in the area.

At the end of three years general improvement in the level of dental health was observed in children entering Riverdale elementary schools, whereas there appeared to be little change in children of similar age from the two control areas.

II. TOPICAL APPLICATION OF STANNOUS FLUORIDE FOR CARIES CONTROL IN PRESCHOOL CHILDREN

Material and Method

A total of three hundred and sixty-five children aged two to four years, participating in the diagnostic and educational demonstration project, were available for this study. Preference was extended to children between two and a half and three and a half years of age in order to test the agent on children who had thus far experienced little or no dental caries. One hundred and eighty-five children received application of the fluoride solution while one hundred and eighty received application of distilled water and served as a control group.

Subjects received clinical and bitewing radiograph examination from the same dentist who was unaware whether a child was assigned to the experimental or control groups. The radiographs were interpreted independently by two dentists who were also unaware of the treatment provided to the child. Caries experience data was confined to occlusal and interproximal surfaces of deciduous cuspids and molars. From a dental hygienist each subject received a thorough prophylaxis including cleansing of the interproximal areas by the use of sandpaper strips, followed by application of the agent or placebo to alternate children. An aqueous eight per cent solution of stannous fluoride was freshly prepared for each child in the experimental group. This procedure was repeated one year later and is to be repeated once more at the end of the second study year. At the end of the first year, the colorimetric caries activity test of Grainger et al. was administered when the children were re-examined to determine the acid concentration capacity of their oral microflora (10). This aspect of the investigation was concerned with determining whether or not a relationship exists between rampant clinical caries — high acid concentration capacity — and diminished fluoride benefit.

Findings and Discussion

By April 1959, two hundred and four of the children had received re-examination and treatment. The caries increment in the experimental and control groups is shown in Table VII. Children in the experimental group who received stannous fluoride developed twenty-four per cent fewer occlusal cavities and thirty per cent fewer interproximal cavities than children in the control group who received distilled water. The total caries increment was twenty-eight per cent lower in the experimental group.

Classification of caries increments for the experimental and control groups according to acid concentration capacity of

TABLE VII

THE EFFECT OF TOPICAL STANNOUS FLUORIDE ON DECIDUOUS CARIES INCREMENT

Treatment	Number of children age 2-4 years	Average caries increment		
		Occlusal	Interproximal*	Total
Control (H ₂ O)	92	0.80	1.90	2.70
Stannous fluoride	112	0.61	1.34	1.95
Percentage difference		-24%	-30%	-28%

*Newly decayed, missing and filled surfaces on deciduous cuspids and molars in a 12-month period.

TABLE VIII

THE INFLUENCE OF ACID CONCENTRATION CAPACITY ON RESPONSE
TO TOPICAL STANNOUS FLUORIDE

Treatment	Acid Concentration Capacity							
	Negligible (pH 4.75+)		Weak (pH 4.5-4.74)		Moderate (pH 4.16-4.49)		Strong (pH 4.15-)	
	No. Children	Caries Increment	No. Children	Caries Increment	No. Children	Caries Increment	No. Children	Caries Increment
Control (H ₂ O)	28	1.28	19	2.71	17	4.02	8	3.83
Stannous Fluoride	38	1.10	20	1.85	17	3.06	10	2.80
Percentage Difference	-15%		-32%		-24%		-27%	
	23.5%				25.5%			

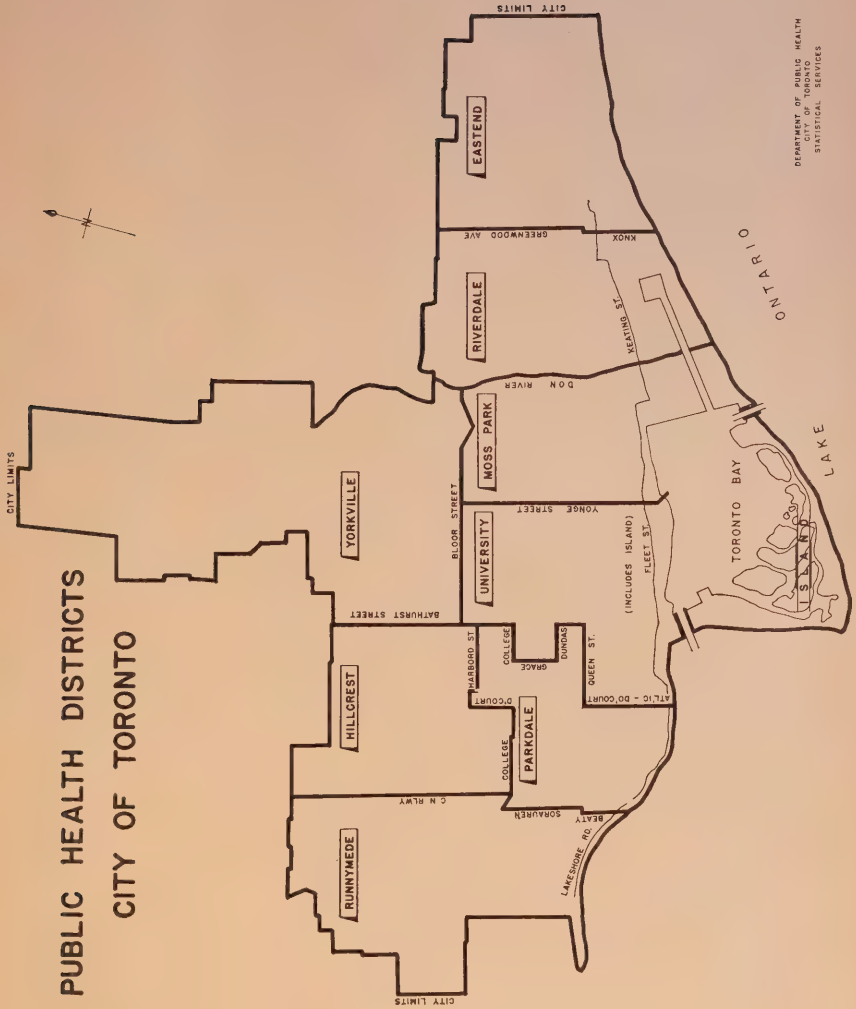
their oral microflora is shown in Table VIII. At each level of acid concentration capacity, the caries increment is less for the stannous fluoride children than for the controls. The fluoride appears to provide roughly equal benefit regardless of the acid concentration capacity in the host. The average reduction in caries increments by stannous fluoride was twenty-three and half per cent for children with negligible to weak acid concentration capacity, while for children with moderate to strong acid concentration capacity the reduction amounted to twenty-five and a half per cent.

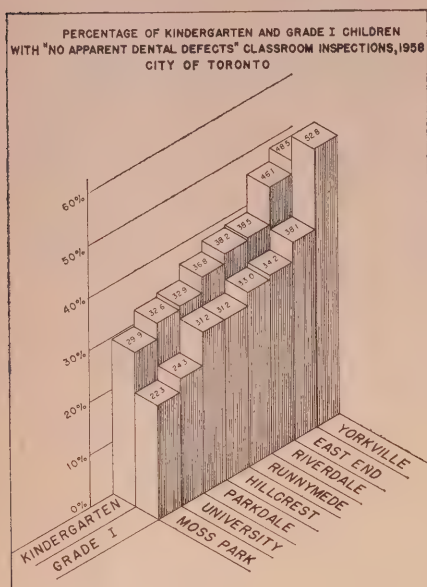
SUMMARY

A single topical application of eight per cent stannous fluoride reduced the one-year caries increment of preschool children by twenty-eight per cent. The beneficial effect of stannous fluoride is apparently not influenced by the acid concentration capacity of the child's oral microflora.

CONCLUSION

A preschool diagnostic and educational program has produced significant improve-





ment in specific aspects of dental health in an urban environment with an ethnically diversified population exhibiting considerable turnover. A single topical application of an aqueous eight per cent solution of stannous fluoride reduced the one-year caries increment in the deciduous teeth of preschool children by twenty-eight per cent.

In the light of this experience it is re-

commended that preventive preschool dental programs form the basis of organized community dental health effort. Topical application of stannous fluoride for caries control in preschool children will be further investigated.

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465 Bay St.

"We must bear in mind the difference between thoroughness and efficiency. Thoroughness gathers all the facts, but efficiency distinguishes the two-cent pieces of non-essential data from the twenty-dollar gold pieces of fundamental facts."

William J. Mayo, 1861-1939

Resuscitation Kit for the Dental Office

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A great deal has been written about dental emergencies, but most of the literature treats the problem from the academic rather than the practical approach. The purpose of this paper is to outline the basic drugs and equipment necessary to revive or contain a dental emergency until additional medical help can be obtained. Figure 1 shows the basic kit held in the Dental Department, Kingston Military Hospital. This kit was developed to combat the three main emergencies which may be encountered in a dental practice, namely, syncope, convulsions and cardio-respiratory failure.

The most common accident is syncope, in other words, fainting. This is a temporary loss of consciousness due to cerebral anemia and may be initiated by any one or combination of numerous factors. A frequent cause is fear of the needle aggravated by an erect posture, necessitated unfortunately by the nature of our equipment and the service we render. Tipping the chair and patient back into the horizontal position for the injection of the local anaesthetic should be considered for patients who report trouble with dental anaesthetics. A good history has been stressed for years and it is certainly the most valuable precautionary measure available to the busy dentist. A history form filled out in the waiting room, such as is used here (Figure 2), can be of great value in indicating patients who need a more detailed history, as well as those who may justifiably be classified as syncope prone.

Fainting is usually preceded by some or all of a series of easily discerned premonitory signs. These include pallor, profuse sweating, complaints of faintness, often nausea, a rapid weak pulse or just as commonly a slow pulse from excess vagal activity. During this stage, cold compresses on the head, aromatic spirits of ammonia to initiate the cough reflex, or the placing of the patient's head between his knees with instructions to press up against your hand placed on the back of his neck, will usually revive the casualty. If this latter technique is used, care must be taken to ensure the patient does not lose consciousness and slip out of the dentist's grasp. The position of choice for treatment of all dental emergencies discussed here is the one in which the patient is tipped back in the chair.

If consciousness is lost, tip the patient back in the chair so that his feet are higher than his head and supply Oxygen by mask. If respiration becomes shallow or inadequate, it should be assisted in time with the patient's efforts by "bagging" (i.e. intermittent positive pressure applied to the rebreathing bag) 16-20 strokes per minute. This will ensure an adequate supply of Oxygen and the proper elimination of CO₂. Labored breathing suggests an airway obstruction and attention should be appropriately directed.

The second problem, namely convulsions, is frequently seen and is usually ascribed to the inadvertent injection of the local anaesthetic directly into the blood stream. There is a weight of evidence¹

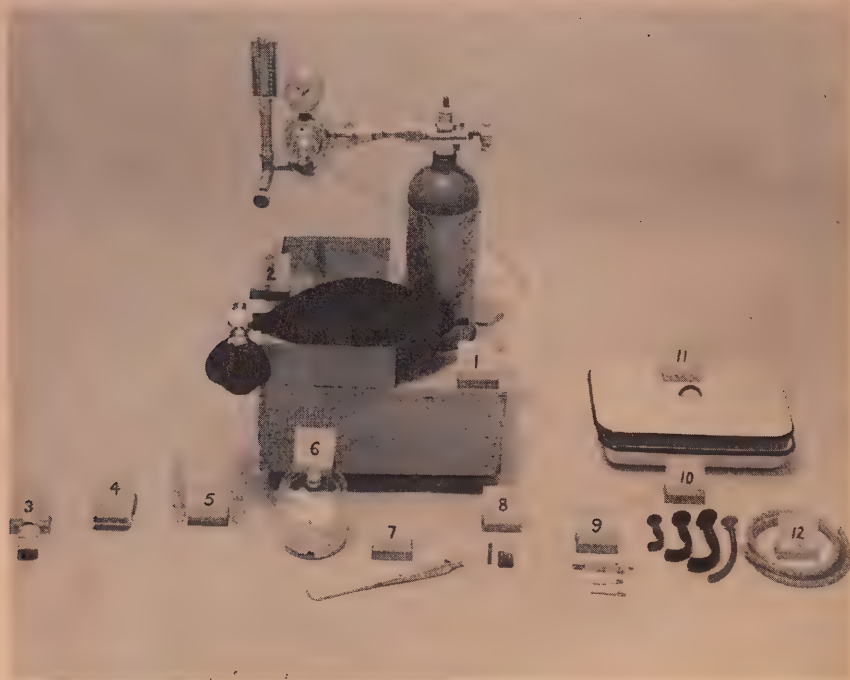


FIGURE 1

1. Oxygen Cylinder (95 gals.) "D" in mobile stand with meter. 2. Rebreathing bag — 3-litre collector, bottom only: 211-2820-100 Ohio.—Right angle connector with blow off valve. — M.I.E. medium sized anaesthetic face mask. 3. Nitroglycerine tablets (1/100 gr.). 4. Aromatic spirits of Ammonia. 5. 0.5 gm. ampules of Sodium Pentothal and 20 cc. ampules distilled water. 6. Alcohol swabs. 7. Suction Apparatus for vomitus. 8. Neo-synephrine Hydrochloride (0.2 mg/cc-2cc ampules). 9. Luer-Lok syringes and needles; Syringes—20cc and 2cc. Needles—#20 and #23. 10. Gudel Airways assorted sizes. 11. Tray and lid. 12. Soft rubber tubing 2' for tourniquet. Not Shown—Sphygmomanometer.

however, to suggest that it takes a very large dose of a local anaesthetic to produce sufficient stimulation of the cerebral cortex to result in convulsions even when injected intravenously. It has been theorized that this reaction, occurring at times after the injection of small doses, is the result of increased or unusual sensitivity to the drug. However, a more likely explanation is acute cerebral anoxia from syncope causing convulsions in a convulsion prone individual. In this unfortunate state, we have seen the patient almost

kick the foot rest off the chair. The reaction which develops rapidly with little warning can be so violent that the patient has to be forcibly restrained. This condition, whether a manifestation of local anaesthetic toxicity or cerebral anoxia, is usually self limiting. Besides posturing the patient as for syncope, the prompt intra-venous injection of 2cc of 2½% sodium pentothal, leaving the needle in the vein in order to give repeated similar doses 30-60 secs. apart, will smooth out the convulsion and save both the patient

DENTAL CLINIC — KMH
PATIENT HISTORY

1. _____ (Name and Initials) _____ (age)
2. Have you ever suffered from any of the following:

	Yes	No

(a) Heart trouble

(b) Rheumatic Fever

(c) Diabetes

(d) Epilepsy

(e) Fainting

(f) Infectious diseases other than those common to childhood

3. Have you ever had abnormal bleeding after a dental extraction?

4. Are you sensitive to any particular medicine (Aspirin, penicillin, local anesthetic, etc.)

5. Are you taking any medicine now?

6. Are you at present under a medical doctor's care?

PLEASE FILL OUT AND GIVE TO DENTIST AT THE CHAIR

FIGURE 2

and the clinic's equipment from unnecessary damage. Use no more than that necessary to control the convulsion and give it in small fractional doses with time to observe its effect in the intervals as already described. Ensure the injection is intravenous and not subcutaneous, otherwise a slough may result. The danger of a slough however is minimized using this recommended concentration of pentothal.

The third type of accident which can occur is not diagnosed usually until you suddenly realize a patient is not responding to your initial treatment for syncope. Cardio-respiratory difficulties become evident and circulatory failure is imminent when the pulse is no longer detectable. Inject, with all possible haste, a vasopressor agent to support the circulation. The drug of choice is Neo-synephrine Hydrochloride intravenously and the dosage is a half cc of the 0.2 mg/cc preparation which comes in a 2cc ampule. It can be repeated every 1-5 minutes in a similar dosage or less depending on the status of the patient and in particular his blood pressure. Watch the blood pressure and pulse constantly. This is a good drug since it has few side effects, acts rapidly and each subsequent injection is as effective as the first. Its action is relatively short. Again the patient should be postured supine with his head low to promote the return of blood to his heart. And again if the patient does not breathe, he must be bagged with pure oxygen, with his head extended and his lower jaw held firmly forward. Airway obstruction must be looked for and corrected if present, usually by means of a Guedel oropharyngeal airway. If these aids to respiratory failure are not immediately available then mouth to mouth ventilation should be practiced. This ancient method whose high efficiency has been newly recognized should be known to and capable of performance by every dentist.²

Venipunctures are usually not difficult and should be part of the practicing dentist's stock in trade.³ He may be called on to use it in a dental emergency as described already or in his role as an emergency

anaesthetist aiding a surgical team for Canada's Civil Defence Plan. A length of rubber tubing is used as a tourniquet to cut off the venous return in the upper arm using a slip knot or locking hemostat for quick release when finished. The elbow joint is fully extended and the arm rested on a rigid support. The contoured arm rests of the newer dental chairs are excellent for this stabilization. Select a well defined vein, swab the area with alcohol and insert the needle, bevel down, through the skin. The vein is immobilized by support from the tip of the index finger and by stretching the overlying skin with the thumb. (Fig. 3.) The vein is now entered and the needle rotated along the lumen to ensure good insertion. Blood should enter the needle spontaneously if venous pressure is normal. The tourniquet is next released and the desired injection made. In the event the needle has to be removed to "try again", maintain pressure on the vein at the point of the needle insertion to reduce the likelihood of hematoma formation.

The last item on our tray is included as a safety factor only. Nitroglycerin tablets are used for the alleviation of chest pains of cardiac origin. The patient places a tablet sublingually to control these symptoms. It is agreed that this emergency rarely arises since your history has indicated the patient's cardiac condition, and you would not start an extensive procedure without taking adequate precautions. However we often see the older patient in the chair very conscious of his "heart condition" wanting the psychological lift of the pills his physician told him to carry at all times. These are included in the tray because he could have inadvertently left them at home. Occasionally too, they may be of therapeutic value for a true heart attack occurring in the office.

A suction apparatus is not part of the emergency kit itself since it is an integral part of most dental offices today. It is made ready during any emergency. This provides a satisfactory adjunct to clearing regurgitated or vomited material

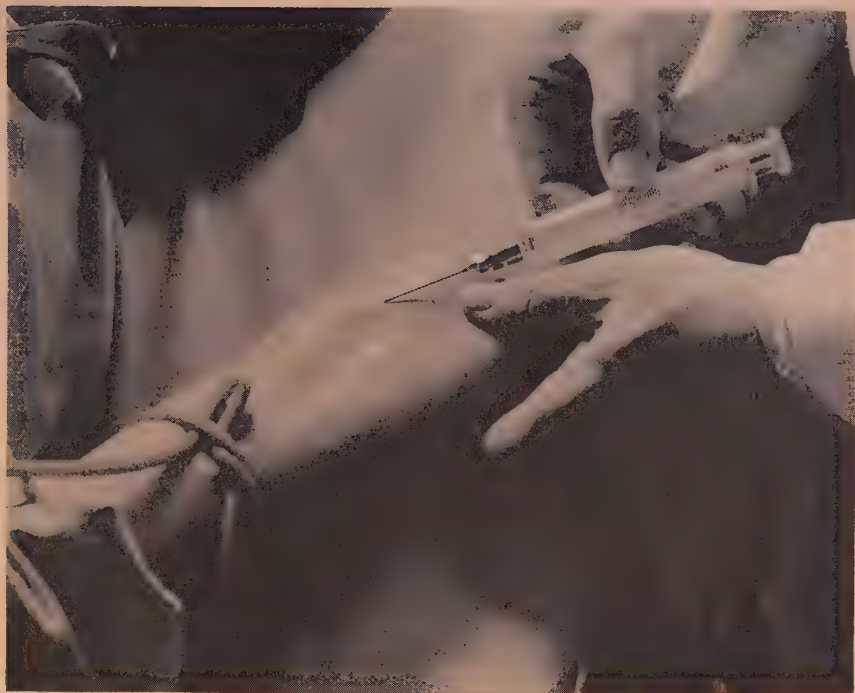


FIGURE 3

from the mouth and throat of the unconscious patient who of course should be in a somewhat head down position at this stage of proceedings.

The emergency kit and treatment plan described is built around the Oxygen tank and mask because of the vital role played by Oxygen therapy in resuscitation. Inadequate blood oxygenation results in early loss of consciousness and rapid damage to the sensitive brain tissues. The rule is "*give Oxygen early*" no harm can result and it may save a life. "Drills" are necessary to ensure that all members of the dental team are fully conversant with the contents of the emergency tray and

the operation of the Oxygen apparatus. It is the Dentist's moral as well as legal responsibility to ensure that, as in all other phases of his treatment, he has a simple clear cut plan to deal with any emergency which though rarer today can and does still occur.

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The Influence of Anatomical Structures on the Development of Periodontal Disease

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A Fourth Dental Year Essay

Editor's Note

The Journal of the Canadian Dental Association is pleased to publish the second prize essay in the War Memorial Award. It is hoped that the winners of these prizes will carry their interest and abilities into practice and again into the pages of our Journal. The first prize essay appears in the French Section.

INTRODUCTION

Periodontal disease has been known for many centuries by many designations; indeed, mention of the disease has been found in ancient records of Egyptian, Roman, Greek and Chinese origin^{8, 29}. Not until comparatively recent times, however, has the etiology and pathogenesis of periodontal disease been scientifically investigated.

Several factors usually combine to form the initial lesion. Miller¹⁵ finds that: "... no single cause can produce periodontal disease; rather a combination of etiological factors is responsible for this syndrome." Glickman⁸ is a little more specific in stating that periodontal disease is the net result of the interrelationship of pathological and physiological influences of both local and systemic origin. Increasing knowledge of the biological sciences has helped us to understand this complex picture.

In this essay the author will limit his topic to the consideration of gross anatomical structures which, because of certain variations in contour and position, may influence the development of perio-

dontal lesions in man. The reader must at all times remember that no attempt is being made to attribute the development of periodontal disease to anatomy only.

For the purpose of this essay the following definitions have been chosen:

Periodontal disease: "A collective term designating any disease process which involves the periodontium"¹.

Anatomical structure: Any part of the body regarded with respect to its morphology and relationship to adjacent structures.

Because of limited space, the author will not elaborate on the pathological picture present in every case.

The influence exerted by anatomical variations of a pathological nature will also be omitted from this essay as a general rule. The author has, however, taken the liberty to discuss a few cases where changes in the anatomy, although pathological in origin, were thought to be sufficiently common or interesting to be included in this essay.

DENTAL ANATOMY

Of all the anatomical structures the teeth probably have the greatest influ-

ence on the development of periodontal disease. This is due to the many variations in shape and to the diversified relationships of the teeth to one another and to the adjacent structures.

(a) Contact areas

Wheeler²⁸ states:

The proper contact relation between neighbouring teeth in each arch is important for the following reasons:

(1) it serves to keep food from packing between the teeth, and (2) it helps to stabilize the dental arches by combined anchorage of all the teeth in either arch in positive contact with each other. . .

If for any reason the contact is destroyed (Fig. 1), the food will pack against the

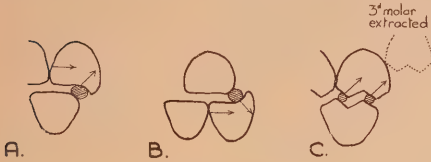


FIGURE 1

gingival papilla. Inflammation followed by degeneration may soon lead to destruction of the supporting tissues of the teeth involved and the eventual loss of these teeth^{14, 22, 25, 26}.

Contact areas close to the gingiva may precipitate periodontal disease by facilitating the wedging of food into the occlusal embrasures (Fig. 2).

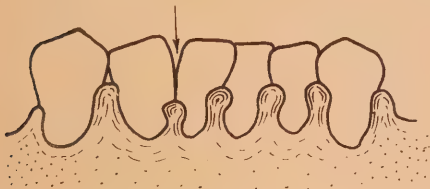


FIGURE 2

The teeth become separated and the papilla, already compressed because of the apical position of the contact point, is further injured by the pressure of food during mastication^{9, 14}.

Occlusally situated contact areas may be due (1) to the inherited shape of the teeth and their relation to one another, (2) to attrition or abrasion.

When the position of the contact is due to the abnormal shape and arrangement of the teeth, a space may exist between the contact area and the tip of the papilla where food debris, bacteria and desquamated cells can accumulate (Fig. 3). The shape of the teeth often

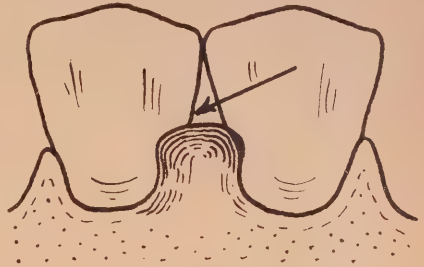


FIGURE 3

prevents normal food deflection with consequent loss of tone and decreased resistance to infection of the gingival papilla.

The coronal position of the contact may also be due to wear. In this instance the opposing cusp is generally worn down to fit accurately into the occlusal embrasure (Fig. 4). This so-called "plunger cusp"

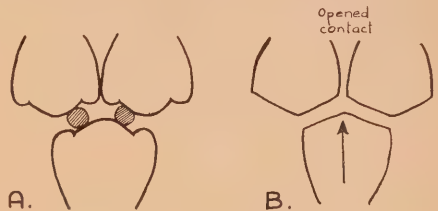


FIGURE 4

acts as a piston in driving food through the contact against the gingival papilla^{8, 30}.

The influence of the surface area of contacts in the development of periodontal disease is a controversial topic. Some investigators^{14, 22} suggest that flat contacts, while favouring food catching, also compress the papilla, thereby leading to its degeneration and further damage to the underlying tissues. On the other hand, Campbell⁵ finds that point contacts, advocated as normal by G. V. Black, are quite abnormal since a functioning dentition causes tooth movement with consequent interproximal wear. He also notes that extensive interproximal wear in native races is not accompanied to any significant degree by periodontal lesions.

The stabilizing action of normal contacts on the teeth of the arches, as expressed by Wheeler²⁸, is best explained by Fig. 5.

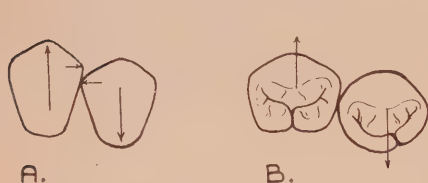


FIGURE 5

The slightest alteration in contact relation may displace the teeth in the direction shown by the large arrows.

(b) *Embrasures*

Embrasures, both occlusal and interproximal, should be of such a shape that deflection of food onto the gingiva will stimulate the tissue without injury to it^{9, 28, 30}. Excessively wide or excessively narrow embrasures are equally harmful to the gingiva; the former favour direct trauma to the papillae, while the latter result in loss of gingival tone due to insufficient stimulation.

(c) *Contour*

The curvature on the labial, buccal and lingual aspects of the teeth has the following functions:

- (1) It allows sufficient stimulation for good tissue tone.
- (2) It protects the gingiva from direct trauma during mastication.
- (3) It creates a self-cleansing masticatory apparatus.

If the curvature is slight or absent, the food will be forced against the marginal gingiva, causing it to become inflamed and to recede. If there is overcontouring the gingiva is not stimulated and loses its normal tone, thereby becoming more susceptible to infection. Furthermore, bacteria, food and cellular debris collect under the height of contour; the mass acts

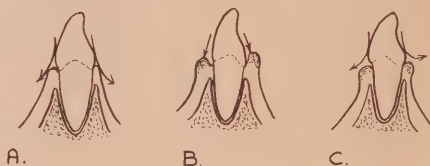


FIGURE 6

as a source of irritation which soon gives rise to a chronic marginal gingivitis (Fig. 6)^{9, 26, 28}.

Eruptive gingivitis, found in mouths showing incompletely erupted teeth¹², is directly related to improper food deflection. The marginal gingivitis produced by the impact of food onto the gingival crest disappears as the tooth erupts further into normal occlusion.

(d) *Crowding*

If teeth are crowded, as they frequently are in the lower incisor region, the gingival margin may not be ideally related

to the height of contour of the crowns. As a result there may be evidence of gingival inflammation for reasons already presented in the previous section. Furthermore, the irregular arrangement of the teeth will contribute to the accumulation of debris in the gingival crevice and interproximally. Unless frequent toothbrushing helps to maintain good local conditions, the situation may well accelerate the development of more extensive periodontal lesions.

(e) *The root*

The surface area of the root or roots of a tooth influences the amount of stress that can safely be placed on that tooth^{14, 30}. Long and wide cylindrical roots offer the best anchorage for the tooth providing the root size is not so large as to preclude adequate alveolar support.

When forces are applied to the tooth in the direction of its long axis, the supporting structures will withstand as much as 250 lbs. of pressure per square inch. However, if lateral or oblique stresses are present, the root-crown ratio will determine the amount of stress placed on the supporting structures. The outcome of this torque will depend on the balance between occlusal stress and tissue adaptability^{15, 17}.

(f) *Cusp height*

This subject is discussed in the next section under "occlusal relation".

(g) *Carious teeth*

Inasmuch as caries may affect the normal contour of teeth, their interproximal relation, and their relationship to the gingiva, carious teeth must be considered as playing a definite rôle in some forms of periodontal disease. The influence of lost contacts and altered contour on periodontal disease has already been described; however, the irritating action of the sharp margins of carious lesions should also be kept in mind when treatment is considered.

(h) *Surface irregularities*

Surface irregularities contribute indirectly to periodontal disease by favouring the deposition of calculus. According to Zander³³, calculus becomes attached to the root surface in the four following ways:

- (1) Through the secondary cuticle.
- (2) Through microscopic irregularities in the cementum (spaces formerly occupied by Sharpey's fibres).
- (3) Through penetration of organisms from the plaque into the cementum.
- (4) Through deposition in areas of un-repaired cementum resorption.

Gross surface irregularities, such as enamel pearls, are fairly rare. When present, enamel pearls are most often situated at the cemento-enamel junction of posterior teeth³³, where their irritating action is almost always a direct cause of gingival recession²⁶.

OCCUSAL RELATION

(a) *Interlocking cusps*

Unworn teeth with high interlocking cusps are a leading cause of traumatogenic occlusion, which in turn may trigger the development of periodontal lesions. The direction of the cuspal inclines is such that occlusal stresses have many oblique components. As wear flattens the cusps the occlusion becomes less traumatogenic because of a change from oblique to axial loading and from impact to impulse loading^{4, 30}. Rosebury²⁰ believes that, ideally, occlusal stress in young dentitions is absorbed physiologically by the relatively plastic bone; but as age increases, the cusps should become worn and the occlusal stresses decrease, thereby compensating for the loss in resilience of the supporting bone and periodontal membrane.

(b) *Excessive wear*

Prolonged or excessive wear by flattening the occlusal surfaces may greatly re-

duce their masticatory efficiency. Studies of the dentition of primitive civilizations reveal, however, that the relationship of periodontal pathology to the degree of wear is of no statistical significance⁵.

(c) Malpositions

Horizontal malpositions resulting in such clinical entities as rotations, cross-bites, or varying degrees of axial inclination, may all favour the development of periodontal disease^{8, 9, 14, 24}. Malpositions, although of many types, contribute to periodontal involvements in two main ways²³:

(1) Malposed teeth, by allowing abnormal food deflection, interfere with a self-cleansing dentition.

(2) The inclination of a tooth may be such that the occlusal stresses are not applied in its long axis. Instead, a torque-like effect is produced which tends to dislodge the tooth from its socket.

Vertical malpositions are usually the result of exfoliation of a tooth from its socket into an opposing edentulous space. The extra-alveolar arm being increased in length, traumatogenic occlusion of the exfoliated tooth is promoted during functional movements.

In cases of premature contact the affected tooth is subjected at frequent intervals to forces greater than those which periodontal membranes can normally bear. The resulting interference with the vascular supply to the supporting tissues may be responsible for the formation of intrabony pockets which, if left untreated, may lead to early loss of the traumatized tooth^{17, 23}.

(d) Excessive overbite

The incisors are the teeth most markedly affected in this condition which involves the lower or the upper teeth, or the teeth in both arches (Fig. 7). Depending on the degree of torque and tissue resistance, these teeth may become more or less mobile and develop deep intrabony pockets²⁴.

In cases where the overbite is combined with a marked overjet, the incisal surface of the mandibular incisors presses into the palatal gingiva, immediately behind the maxillary anterior teeth. This constant trauma of the palatal tissues often gives rise to a chronic hyperplastic gingivitis and the formation of pseudo-pockets⁹. Debris and bacteria can accumulate in the deepened gingival sulcus and create a primary focus for necrotic gingivitis³⁰ (Fig. 7, C.).



FIGURE 7

(e) Prognathic mandible

In severe class III occlusions, diastemas coupled with pain about the lower anterior teeth are sometimes produced by oblique pressure of the maxillary teeth⁷. This is accompanied by inflammation and pocket formation caused by excessive pressure on the supporting structures.

(f) Maxillary protrusion

A mouth-breathing gingivitis is almost always observed in severe cases of maxillary protrusion, because of the difficulty encountered by the patient in keeping the lips together. This condition may or may not be accompanied by respiratory difficulties.

ANATOMY OF THE UPPER RESPIRATORY TRACT

Any interference with normal breathing may be the cause of a mouth-breathing habit that can seriously affect the health

of the oral mucosa in general and that of the labial gingiva in particular. The most common anatomical peculiarities that may interfere with normal nasal breathing are:

- (1) A deviated nasal septum.
- (2) Hypertrophied conchae.
- (3) A thickened nasal mucosa.
- (4) Adenoids.

The deflection of the nasal septum to one side usually occurs after seven years of age, along the junction of the vomer and the perpendicular plate of the ethmoid^{6, 13, 26}.

In rare cases the nasal blockage is due to abnormally large turbinate bones^{6, 26}.

A common source of nasal obstruction is a thick, spongy mucoperiosteum covering the inferior conchae. The rich venous plexus, which gives the mucoperiosteum the consistency of cavernous tissue, may swell to obliterate the space between the conchae and the septum^{6, 26}.

Finally, the generalized growth of lymphoid tissue, which reaches a peak in children around ten years of age, may produce a pharyngeal tonsil sufficiently enlarged to severely interfere with nasal breathing. Children with this condition often present the characteristic adenoid facies, together with a typical mouth-breathing gingivitis^{6, 11, 26}.

THE BONY SUPPORT

(a) Bone density

Some authors^{14, 19} believe that the density of bone trabeculations may influence the supporting ability of bone. Miller¹⁴ states:

... Bone varies in its density of trabeculation and thus in its ability to support the teeth. Denser or more closely woven bone with smaller medullary spaces will allow a better prognosis than bone with large cancellae from which less efficient support can be expected.

... Rapidity of bone destruction is in inverse proportion to the uniformity of density of the alveolar support ...

The modern trend, however, is to consider the density of trabeculations a result of occlusal stress; furthermore, the range of normal variations in the trabecular pattern is so wide that bone density cannot be

used as a reliable means of predicting the outcome of a periodontal involvement^{21, 22}.

(b) Bone thickness

A prerequisite condition for three-walled infrabony pocket formation is bone sufficiently thick to include supporting bone between the alveolar bone proper and the cortical plates. When the bony ridge is narrow, the pattern of bone resorption leaves one bony wall only. Since success in the treatment of infrabony pockets by periodontal reattachment is directly proportional to the number of walls enclosing the pocket^{19, 30}, the bone thickness over the neck of the teeth is a major factor in determining the outcome of this type of periodontal involvement.

(c) Relationship of the teeth to the bone

Glickman⁸ finds that "the position of a tooth or a group of teeth in the arch influences its susceptibility to recession". Any buccal or labial tilting or displacement may thin or remove the bony plate so that "very little pressure on the gingiva . . . will result in recession". The maxillary first molar is an excellent example of such a situation, where considerably thinned bone is often found overlying the lingually inclined palatal root. During passive eruption the bone becomes even thinner and as the unsupported gingival margin is worn away during mastication, recession will occur¹⁹.

A lingually malposed tooth will often exhibit a thicker, more coronal alveolar buccal plate with a correspondingly thinner, more apically situated lingual plate. Morris¹⁶ observed that the buccal gingiva in such an instance follows the bony contour, presenting a thicker, more coronal margin, greatly susceptible to irritation. He also noticed that unless the tooth is moved into proper alignment, the chronic inflammatory process usually present will not subside permanently. Surgical tapering of the alveolar crest will only produce temporary relief.

In the third molar area, the anterior border of the ramus may encase the distal portion of the last molar so as to form a deep intrabony pocket which is covered by a soft tissue flap in many instances. Such a situation often contributes to the onset of necrotic gingivitis in susceptible mouths³⁰.

When a bifurcation involvement exists, it is possible in favourable cases to expose the bifurcation surgically in order to make it self-cleansing. Good oral hygiene may then save the tooth³¹. However, when the external oblique ridge is in close proximity to the bifurcation the operation becomes difficult, if at all practical.

THE INTRA-ORAL SOFT TISSUE STRUCTURES

(a) *The lips, cheeks, and tongue*

The lips, cheeks, and tongue protect the alveolar mucosa and help its lubrication. Lite¹¹ believes that the colour of exposed mucosa and the amount of irritation present depend, among other factors, on the portion of mucosa exposed to the air; therefore, the shorter the lips, the more severe is the inflammatory reaction of the labial mucosa. This condition, commonly known as mouth-breathing gingivitis, is frequently seen in individuals with short upper lips or in those with a thick, pendulous lower lip.

The influence on periodontal disease of the cheeks and tongue is indirect and limited merely to the additional mechanical cleansing of the interdental spaces by these organs. The pumping action of the cheeks and tongue, in addition to milking the salivary ducts, creates currents of saliva which assist the flushing out of bacteria and debris from areas of difficult access, thereby decreasing the susceptibility of these areas to periodontal disease³¹. Box⁴ wrote, however, that, "the value of the tongue and lips in cleansing the proximal surfaces of the teeth is extremely small."

The position of the orifices of the parotid and submaxillary salivary ducts has been

shown to be related to the heavier calcular deposits on the lingual aspect of the lower anterior teeth, and on the buccal aspect of the upper molars^{8, 26}. Because of the greater incidence of periodontal disease in these areas, particular care should be taken to keep these deposits at a minimum.

(b) *Influence of the frenum attachment*

A short, tough frenum inserted in close proximity to the free margin of the gingiva is a frequently overlooked cause of periodontal pathosis. The condition occurs both in children and adults. It is most often seen in the mandibular incisor region, a definite labial frenum being present in every case^{8, 12, 21}.

Bork and Weiler³, who thoroughly investigated this condition, have described it as follows:

... Over a prolonged period of time the constant tension brought to bear by the frenum during functional movements of the area eventually succeeds in detaching and causing the resorption of the gingival tissues, thus partially or almost completely exposing the labial root surfaces. This constant insult to the gingival tissues, combined with the decreased depth of the sulcus, prevents proper adequate oral hygiene of the area. Subsequently, gingival irritation and inflammation followed by recession occurs, creating deep periodontal pockets which tend to be progressive in nature. Usually, both subgingival and supragingival calcareous deposits will be evident ...

Loosening of the affected teeth usually appears as the condition progresses and eventually these teeth may be lost.

(c) *The gingival contour*

Some cases of gingival enlargement, although pathological in nature, are of sufficiently common occurrence to deserve a brief description. Basically, the enlarged gingiva contributes to periodontal disease in the following ways:

(1) The gingival crevice is deepened and traps food, cellular debris and bacteria, thereby acting as a test-tube which may become a focus of infection for further damage to the underlying tissues and alveolar bone support³⁰.

(2) Because of its shape, the enlarged gingiva is more susceptible to mechanical

irritation and, hence, to a chronic inflammatory state.

In necrotic gingivitis, the resulting deformity of the gingival anatomy is directly responsible for recurrences of the condition. Following an acute attack of necrotic gingivitis the gingival papilla is often partially destroyed. A crater-like depression is left beneath the contact area in which debris collect and bacteria multiply; sooner or later, when the resistance to infection decreases, they will cause a recurrence of the disease^{9, 13}. Unless the gingiva becomes recontoured naturally or surgically to a more desirable shape, no treatment will bring any permanent relief.

CONCLUSION

As stated in the introduction, periodontal disease is the net result of the interrelationship of a large number of pathological and physiological influences of both local and systemic origin. In order to achieve a good understanding of the pathology of periodontal disease, an essential requirement for successful treatment planning, the dentist must be familiar with the details of all the factors contributing to the development of this disease. In this essay the author has attempted to present a review of the circumstances under which the anatomical structures in and about the oral cavity may influence the development of periodontal disease, and the manner in which this is brought about. Only through the careful analysis of every causative factor can the dental profession ever hope to achieve control and perhaps complete prevention of what is potentially the most damaging of all dental diseases.

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Who Should Be Educated?

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To anyone who has taken part in the October last Canadian Dental Association Congress in Montreal it was obvious that congratulations were in order for the organizers of such a successful accomplishment. The social functions were extremely pleasant, while the scientific atmosphere was maintained at a high level.

From the purely administrative point of view, there were several meetings; in each of which several problems were discussed, without however, all the members present being able to take part on account of their large number. To partly counter for this situation, the organizers were inspired to make an inquiry, in order to find out the opinions of one and all, regarding the problems of the profession. Among those which were especially studied, there was problem No. 11 which read: (1) Should we try to learn more? (2) Should we try to educate medical men? (3) Should we try to modify the hospital laws?

Alas, most of the colleagues voted, believe it or not, in favour of educating the medical men, and of modifying the hospital laws, believing that by so doing all the difficulties that do exist between medical men and dentists would vanish.

It is understood that the medical men, at least as we see it, do not recognize our scientific and legal rights, as well as the beneficial actions we could dispense in the hospitals. But how can we expect to correct that situation by trying to educate the medical men? Is it not slightly out of place to try to give them what we do not have, or at least, what we have and

do not practice? We would seem to be looking for a disagreement instead of a solution to a problem.

It seems that if we wish the medical men to be informed of our problems, we should aim to meet them and this would be done ideally by interning in the hospitals. But, we must remember, that we cannot expect to be admitted into the hospitals, without the elementary formation necessary, no more that we can expect to be socially acceptable without a minimum education.

No one will deny that there are exceptions, and that several of our colleagues, having had the advantage of longer contacts and better studies, are indeed capable of representing us in a very dignified manner in the hospitals. But this is only a small percentage of the whole, which has altogether no real significance compared to the mass of those who are not really prepared for that function.

We believe that we should start by securing a much more profound knowledge of our art and especially by putting into practice, what we do learn from a purely theoretically point of view. It is only on these solid bases, that a professional group will be permitted to progress further, and it is at the same time, excellent, and perhaps the best publicity which an association like ours can look forward to.

Among the remedies and treatments to our short-comings, it is perhaps true that post graduate studies are not the best means, because having had to put up with

four years of university it does happen that it is difficult and sometimes impossible, for many of us to further these studies on account of high cost. But, if on the other hand, we consider the exaggerated importance given to technical teaching in the lab during our course of dental surgery, we are of the opinion that it would be quite possible to replace some of it by hospital internship. This would have the double advantage of giving us the occasion of furthering our desire for more advanced studies, and becoming familiar with the life of the hospitals, while increasing our own knowledge.

If we are to blame, we must also recognize that medical men, as a whole, have not seriously tried to understand us and our problems, and also that the laws of the hospitals are quite rigid toward us. We must defend our services. It must not be done with arguing only, but also with a background of knowledge and adequate

preparation, which would permit us to practise what we assert we know.

We must deem ourselves to fight for a principle and not only for individuals. The mutual understanding between the two groups will be accomplished only in the light of our increased capacity and in the presence of a well informed Dental Corps, definitely prepared for hospital life to which we aspire. As long as we are not permitted to serve as interns in the hospitals, we don't believe the problem can be solved, and it is an urgent problem.

To increase the level of our standards for admission to practice, as well as to modify our own constitutions and that of the hospitals, we must expect considerable time to elapse. But, meanwhile since we accept that much better preparation will be needed nothing prevents us from getting ready by studying right now!

565 Rue St.-Jean.

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Ottawa, Ontario

September 13, 14, 15, 1959

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"High Speed in Oral Reconstruction"

"Advantages and Disadvantages of
the Various Types of Replacement"

Major A. Andrews, R.C.D.C.—Subject: "Current Drugs in Dentistry"

Dr. Louis J. Rosen

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EDITORIAL

A 24-Hour Emergency Service

The glow of graduation soon dims as the full weight of responsibility settles on a professional man's shoulders. Not the least of these is the necessity of providing 24-hour emergency service for our patients.

"Professed" willingness to accept such responsibility is expected of professional people by the public whom they are entrusted to serve. This is one of the intangible differences that sets us apart from the commercial world.

In order to provide emergency dental treatment on an organized basis in Metropolitan Toronto, the Council of the Academy of Dentistry, Toronto, in April of 1958, established an emergency service roster. Ideally this project made emergency treatment available for visitors to Toronto, accident cases, toothaches and haemorrhages when the patient's own dentist was not available, and for those who have no regular dentist.

Establishing and conducting this service has not been unduly difficult and in the interests of those communities lacking in this respect but contemplating the development of such a plan, the following details are offered for assistance.

Every member of the Academy received a letter detailing the purposes of this service and soliciting volunteers to

serve either once a month or twice a year. Approximately fifty percent of the membership responded positively, providing an adequate number of dentists to develop a roster for a six-month period with two dentists on duty each night. For purposes of administration, the roster is currently being developed for three-month intervals.

The emergency service telephone number was listed in the directory and operates Monday to Thursday from 7 p.m. to 6 p.m., Friday and Saturday from 6 p.m. 6 a.m., and Sundays and holidays all day. The patient's call is received by telephone answering service who in turn contact one of the two dentists on call giving the patient's name and telephone number. The dentist contacts the patient and determines what treatment is indicated and if necessary, sees the patient in his office. If after seeing the patient, a specialist's services are required, all oral surgeons have volunteered to provide this assistance.

The matter of remuneration remains with the individual on call and is related directly to the specific circumstances.

There have been little hitches along the way such as the necessity of adjusting the thinking of the immature practitioner who considered this service as the guar-

dian of his sleep; or of invading the privacy of the hide-and-seek practitioner. It is reassuring that our profession as a whole is blighted by so few of these latter practitioners and is composed predominantly of men and women eager to amplify and improve their knowledge and their services.

The results have been heartening and reveal that most practitioners are willing and competent to attend to their own emergency patients regardless of the time of day or night, and when leaving town, make suitable arrangements with a confrere to handle any untoward situations. Further, it has been demonstrated that even in a metropolitan area such as Toronto, there are surprisingly few dental emergencies. Occasionally the vagaries

and wishes of the public are a bit of a challenge to one's composure, but in general the demands are reasonable and the people are grateful.

The Council of the Academy of Dentistry Toronto approached the establishment of this emergency service plan realistically confident that most dental practitioners were in quest of means whereby they could discharge their fullest responsibility to the public. Their confidence was not misplaced.

Dentists need holidays and time away from their practice and no one reasonably expects otherwise. However dental emergencies do not respect vacation time or rest periods. When every dentist in a community gives a little then no one need suffer.

BOOK REVIEWS

The Medical Secretary. Prepared by: Kenneth B. Coffin and R. Forrest Colwell. Published by: The Macmillan Co. Pages: 391—40 illustrations. Price: \$5.95.

The new Medical and Dental Secretary is in need of considerable basic information before she enters the field of the Medical and Dental Professions. In planning "The Medical Secretary" the authors have visualized the problems of the new secretary as well as the experienced one. A unique feature of the book is the study guide and review at the end of each unit which includes a common list of Medical and Dental terms, formats of various types of letters frequently sent by physicians and dentists, this enables the new secretary to use the book for individual study.

The book is designed, through some of its chapters which discuss—The duties of a Receptionist; Bookkeeping Principles and Ethics; Medical Records in a Hospital; Dental Office Accounting; Standard Methods of Sterilization, and Public Relations, to aid medical and dental secretaries in the development and systematic operation of well organized practices.

In the Appendices the authors have brought together many subjects which are invaluable such as, Common Symptoms and Diseases, Lay Terms and Medical Equivalents, and Common Medical Abbreviations.

The value of this book lies in its use as a quick reference guide and as a clear presentation of every day office procedures.

W. M. Leask.

New Teeth For Old. Prepared by: H. Sears, D.D.S. Published by: C. V. Mosby Co. Pages: 108, with illustrations. Price: \$3.00.

This is a book written for the layman who faces the somewhat alarming prospect of becoming a wearer of a full denture or dentures.

In this third edition the author attempts to allay the fears of the patient by answering all possible questions pertaining to the wearing and upkeep of the artificial restorations.

His semi-humorous approach to the subject is successful in making this book interesting reading.

The opening chapter deals with why teeth are lost with reference to focal infection and subsequent diseases. It closes with how teeth can be saved. In between are chapters on Immediate dentures, diet and a chapter on how to enjoy dentures.

In keeping with the light vein in which it is written the book is liberally illustrated with humorous cartoons depicting various aspects of the subject matter.

Ernest Rollaston.

An Introduction to Periodontia: Prepared by H. M. Goldman, D.M.D., F.A.C.D., S. Schluger, D.D.S., D. W. Cohen, D.D.S., B. Chaikin, D.M.D., F.A.C.D., and L. Fox, D.D.S., F.A.C.D.

Published by The C. V. Mosby Co.

Pages 346

Price \$7.75

The introduction of this "pocket book" on Periodontia states in part: "This book is written for both the dental student and the man in general practice." The reviewer feels that this is not a book to be recommended for the student as it is far too brief; it can, however, be of considerable value to the general practitioner—particularly to those who shy away from the larger standard textbooks on the subject. It can be read easily and the chapters dealing with examination, therapy, treatment planning, prognosis, instrumentation, initial preparation and pocket elimination are particularly well presented. If there is a criticism to be made about the last two subjects, it would be regarding the need for more pre- and post-operative photographs which would be of considerable value to the reader; he would be in a better position to see what might be expected in the various stages of the healing processes.

With so many contributors to such a brief textbook it is not surprising that there are some discrepancies to be noted but the book on the whole should prove to be a very useful one to the general practitioner; much very valuable and practical information is readily available for quick and easy reference. If read in this light, then it should serve the

purpose intended by the authors—"to pave the way for more profitable..." use of more advanced and complete volumes on Periodontia.

Robert F. Harvey.

Oral Histopathology. Prepared by: Martin A. Rushton and Brian E. D. Cooke. Published by: The Macmillan Co. of Canada Ltd. Pages: 190. \$5.00.

The objectives outlined by the authors in this small text were to show the derangements that take place, as seen by the microscope, in the commoner and hence important disorders of the tissues about the oral cavity. No attempt has been made to present an exhaustive analysis of any condition, but rather to present the relationship of the major changes of a disease to its causative agent.

The supporting illustrations are excellent both in demonstrating their points and in technical reproduction, the latter due in part to the use of heavily glazed paper throughout the text.

This book is really a primer on the cellular changes seen in the commoner lesions of interest to dentists and dental studies. While it contains nothing new, it does and will serve to explain the altered morphology and pathogenesis of many diseases. The student of dentistry will find it a convenient and concise source of information in this respect to the broader field of oral pathology.

H. A. Hunter.

Highspeed and Ultra-Speed in Dentistry Equipment and Procedures by Harold C. Kilpatrick, D.D.S., published by W. B. Saunders Company, 289 pp. 659 Figures & illustrations. Price \$8.50.

This book represents an authoritative and comprehensive treatise on highspeed to the present day. Both the experienced highspeed operator and the novice will benefit from the full extent of this publication. The author of this book has devoted many years of careful objective study to the various instruments available for the rapid removal of tooth structure.

The author points out that the speed of the dental engine is not the primary factor in the rate of reduction of the tooth, but it is rather the amount of grinding or milling surface that comes in contact with the tooth, per unit of time, developed from the circumference of the cutting tool and the rotational speed delivered at the handpiece. If maximum cutting efficiency is desired, large diameter rotating tools should be used at conventional and medium speeds, whereas tools of smaller diameter should be used at ultra-highspeed.

Among the advantages of highspeed is a reduction in vibration perception to the patient and time spent to reduce the tooth. This economy of time can mean a remunerative gain as well as presenting eight other advantages to the dentist.

The author, with his confreres, has personally tested every known piece of belt-driven handpiece operating in the highspeed range up to 60,000 rpm, as well as belt-driven and air-turbine handpieces in the ultra-speed range above 60,000 rpm. He discusses each piece of equipment available in the United States and points out with generously illustrated text the various means of achieving these speeds.

He has rated comparative patient acceptance on these pieces of equipment as well as the advantages and disadvantages of each. It was gratifying to see the accurately detailed section on maintenance and trouble shooting for the equipment presented.

In the chapter devoted to auxiliary equipment special reference is made to power suction apparatus, and in particular, the washed field technique presented by C. A. Thompson, D.D.S., using the Hydroceptor, a specially designed loop which is used in isolating a quadrant at a time.

Adequately discussed also is the air compressor, an essential requirement for use in operating the air-turbine.

There are detailed contributions on instrumentation for highspeed by the following: Morton Amsterdam, D.D.S., Carlisle Bastian, D.D.S., John Borden, D.D.S., Morris Feder, Wilbert, Gordon, D.D.S., Herbert Kabnick D.D.S., R. A. McEwen, D.D.S., Robert McKay, D.D.S., John Mosteller, D.D.S., Richard Page, D.D.S., Floyd Peyton, D.Sc., Harold Stanley,

D.D.S., Herbert Swerdlow, D.D.S., E. O. Thompson, D.D.S.

Each of the foregoing lists the instruments of choice for his particular operative procedure, as well as the speed of rotation at the handpiece. This can serve to guide the general practitioner in the selection of accepted instruments and their use, whether they be diamond or carbide.

The authors' reports on speed for maximum efficiency of diamond instruments are conflicting, "In our opinion it is best to feel out the best speed of the diamond." Then he states, "At speeds above 60,000 rpm a rough but uniformly spaced grit is most desirable, but further research is being pursued." The reviewer hastens to agree with this point in the use of a high torque, belt-driven handpiece like the Page-Chayes, but with air-turbines, at 200,000 rpm and low torque, a smooth fine grit diamond particle is a prime requisite. Drs. H. Swerdlow and H. Stanley, in their section on "Human response to high-speed" reaffirms reduction in trauma to pulpal and periodontal tissue at highspeed, and this represents the most thorough histopathological work done on the subject to date.

The reader can further obtain ideas on practical training for ultra-speed, and the use of high fidelity music and moving pictures for patient diversion. Another chapter on the use of ultra highspeed for surgical removal of bone, and for gingivectomy procedures is also extremely interesting.

To summarize, the reviewer heartily recommends this publication as a welcome addition to the library of all practitioners as an enlightening contribution to operative dentistry.

Gordon S. Anker.

THE LIBRARY

ADDITIONS

HEARTSILL, C. E. Molars away! Tips and titters for people soon to get false teeth. New York, Exposition Press, 1958. 47 p. \$2.75.

KILPATRICK, H. C. High speed and ultra speed in dentistry. Philadelphia, Saunders, 1959. 289 p. illus. \$8.50.

SMITH, M. Short history of dentistry. London, Allan Wingate, 1958. 120 p. illus. \$3.50.

SUTHERLAND, V. C. A synopsis of pharmacology with special application to dentistry. Philadelphia, Saunders, 1959. 267 p. illus. \$4.00.

WELCH, H. & MARTI-IBANEZ, ed. Antibiotics annual, 1958-1959. Proceedings of the sixth annual symposium on antibiotics sponsored by Antibiotics Medicine & Clinical Therapy. New York, Medical Encyclopedia, Inc., 1959. 1107 p. \$12.00.

- ELWELL, K. R., & EASLICK, K. A.: Classification and appraisal of objections to fluoridation. Ann Arbor, University of Michigan, June 1957. 149 p. Mimeo.
- SNEDECOR, G. W. Statistica methods; applied to experiments in agriculture and biology. 5th ed. Ames, Iowa. The Iowa State College Press. 1957. 534 p. \$7.50.
- SOCIEDAD ESPANOLA DE ORTODONCIA.: Actas de la tercera reunion anual en Bilbao, 20-23 de Junio de 1957. Tercer volumen. 317 p. illus. Barcelona, Spain.
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- WAINWRIGHT, W. W., & VILLANYI, A. A.: Radiation hazards. (Practical dental monographs, January 1959) Chicago, The Year Book Publishers, Inc., 51 p. illus.
- WEITZENHOFFER, A. M.: General techniques of hypnotism. New York, Grune & Stratton, Inc. 1957. 460 p. illus. \$11.50.
- WILKINS, R. M., McCULLOUGH, P. A. & STICKELS, C. M.—Clinical practice of the dental hygienist. Seattle, University of Washington Press, 1958. 435 p. illus. \$5.00.
- WORLD HEALTH ORGANIZATION. Comité d'experts de la fluoration de l'eau. Premier rapport, Geneve, 1958.

THE ASSOCIATION

1959 ANNUAL BOARD OF GOVERNORS

MEETING — PERTINENT MATTERS

President

Dr. W. G. McIntosh, Toronto, was elected President for the ensuing term. Owing to illness Dr. W. J. Langmaid, President-elect, found it necessary to resign and his resignation was accepted with regret. Dr. J. P. Whyte, Swift Current, Sask., was elected President-elect.

Increase in Dues

As a result of a complete study of Association needs during the past year the Board voted for an increase in dues without a dissenting vote. The Board agreed that the Secretariat must be enlarged in order to provide knowledge in several areas if the profession is to be in position to supply present demands for information. Already most of the Corporate Members have indicated their readiness to increase the C.D.A. fee.

The Journal

In spite of increasing publication costs the Committee on Publications reported a balanced budget for the year 1958 with no increase requested in the Association grant for 1960. A new printing contract was arranged with Maclean-Hunter Publishing Co. Ltd. as of January 1, 1959.

Fluoridation

The resolution of approval adopted at the 1958 meeting was re-affirmed.

Budget

1960 budget was adopted with a deficit of \$9,350.

Service Plans

Considerable increase in the number of plans in operation was reported. Emphasis was laid on the fact that the success of these plans established by the profession depends upon the co-operation of dentists. Direction was given that the principles for post-payment plans be reviewed and it was agreed that serious consideration be given to all aspects of a plan to provide dental service to interested groups such as unions.

Hospital Service

Progress was reported in the establishment of the legal position of the dentist in hospitals. A resolution was adopted setting forth dental conditions requiring dental treatment in hospitals.

Research

Notable increase in the amount of dental research in Canada was reported. Sufficient trained personnel remains a problem. The Committee was unable to meet the requests for Studentships during the year and could utilize to great advantage an increased allotment of funds to assist in training personnel.

Education

Expanded teaching facilities were reported but estimates for future years show that presently indicated facilities will not provide an improved ratio of dentists to population. Statements on teaching of anaesthesia, admission requirements, training of dental technicians, and revised outline of lectures for nurses in training were adopted.

Ethics

A revised code of ethics was adopted which will be published and distributed to the membership.

Dental Public Health

Work is in progress directed toward the setting up of a dental health index for Canada. This project is being undertaken at the request of and in co-operation with the Canadian Conference on Children to be held October 1960.

Detailed information will be found in 1959 Transactions to be distributed early this fall.

Kindersley, Saskatchewan Adopts Fluoridation

With a population of 2,570, Kindersley, Sask., commenced controlled fluoridation February, 1959. Saskatchewan has the largest number of municipalities now using fluoridation of any province.

U.S. Public Health Service Reports On Natural Fluoride Areas

The U. S. Public Health Service announced the publication of a report which shows the amount of fluoride naturally present in community water supplies throughout the country.

The report is based on data compiled by the Dental Directors of all State health agencies at the request of the Public Health Service.

Water supplies of 1,903 cities and towns with a combined population of 7,000,000 contain enough fluoride naturally to prevent two out of three dental cavities.

Communities in 43 States use water in which the decay-preventing fluoride occurs naturally. Community populations served range from less than 50 to more than 500,000.

In Texas, 2,700,000 persons in 356 towns use naturally fluoridated water. In New Mexico, 465,000 people or 68 percent of the total population live in communities with water supplies naturally containing fluoride.

More than 450,000 people in 136 Illinois towns and 406,000 in 184 Iowa communities drink water with fluoride added by nature. At least 100,000 people in each of ten States—California, Colorado, Florida, Idaho, Indiana, Kansas, Louisiana, Michigan, Ohio, and Wisconsin—live in towns served by naturally fluoridated water supplies.

Thirty-five percent of the 7,000,000 persons using naturally fluoridated water live in towns and cities with populations of more than 50,000.

Thirty-eight percent live in towns of from 5,000 to 50,000, and 27 percent in communities of under 1,000.

"The fluoride found naturally in water is identical in its effect to the fluoride used in controlled fluoridation," said Dr. John W. Knutson, Chief Dental Officer of the Public Health Service.

"The 1,800 cities now using controlled fluoridation adjust the fluoride content to that found in a great many of the naturally fluoridated water supplies throughout the country, or from 0.7 to 1.2 parts of fluoride per million parts of water.

"The 35 million people living in these 1,800 communities plus the 7 million using naturally fluoridated water means that one out of every three people using central water supplies now drinks water that has been fluoridated by nature or by the community."

Nature adds fluoride to the water used by 7 million people in over 1,900 towns, according to the census of natural fluoridation conducted by State health departments and the U. S. Public Health Service. People who started drinking the water in early childhood have a third as many cavities as people in non-fluoride areas. An additional 1,800 communities with a combined population of 35 million are now adding fluoride to their water supplies to protect the teeth of their children.

'Denturist' Legislation Defeated In Two More States

Legislatures of two more states—California and Michigan—have rejected proposals which would have authorized non-dentists to provide prosthetic services directly to the public. This brings to six the number of state legislatures that have refused to support so-called "denturist" legislation during 1959. Other states in which bills have met defeat are Georgia, Nevada, Oklahoma and Washington. The California action marked defeat for the second of two proposals aimed at regulating the practice of "mechanical dentistry." The Michigan bills sought establishment of a state board of "denturology" empowered to regulate and license "denturologists" and "denturological" laboratories. Meanwhile, in Illinois a "denturist" bill died in a committee of the lower house, while action on a companion measure was still pending in the senate. (See—Summary of Activities by So-called Denturists July issue C.D.A. Journal.)

Centennial Meeting—American Dental Association—New York City— Sept. 14th to 18th, 1959

According to present indications this meeting will be the largest ever held by the dental profession anywhere. The meeting will be international in character. Countries on a world wide basis will be well represented. Undoubtedly the meeting will constitute a landmark in the history of the dental profession.

—Official reservation forms will be found in the January issues of the Journal of the

Canadian Dental Association pages A34-A35.

— For the most part dentists from foreign countries will be registered at the Manhattan Hotel.

—The Fédération Dentaire Internationale 47th Annual Session will take place at the Manhattan Hotel, September 12-19.

—The scientific program and commercial exhibits will occur at the recently completed New York Coliseum, located at Columbus Circle.

—Headquarters for the American Dental Association is the Waldorf-Astoria Hotel, where business sessions will be held.

—The Association of Women Dentists of New York will have a hospitality room at the Henry Hudson Hotel, 353 West 57th Street, Room 1600. A welcome is extended to all women dentists in attendance.

—A cordial invitation is extended to all members of the Canadian Dental Association to participate in this celebration.

Britain Fails Its Children, Declares Head Of B.D.A.

Dr. G. Lotan Venning, newly-installed president of the British Dental Association for 1959-60, has accused that country's government of failing its obligation to the children under the national health service. Dr. Venning made the charge during an address at the Association's annual conference. The government, Dr. Venning declared, ignored B.D.A. advice that the care of children's teeth is the basis on which any national scheme should be founded. Although 98 per cent of school children have dental disease, he said many remain untreated. President of the British organization asserted it was an error to tell the population that free treatment would be available for everyone. This mistake, he explained, has been responsible for producing the present "unsatisfactory" state of affairs. Said Dr. Venning:

The dental profession had done its best to meet the new conditions of practice, but a sense of frustration frequently checks real progress. It may be that in a few years these difficulties will become resolved: that we shall have learned how to adapt the incongruities of a state service to the age-old principles of the free practitioner taking complete responsibility for the treatment of his patient.

GENERAL NEWS

Dr. Sholom Pearlman to Succeed Dr. H. Trendley Dean as Secretary of A.D.A. Council on Dental Research

Dr. H. Trendley Dean, recognized internationally as an authority on fluoridation, will retire July 19 as secretary of the A.D.A. Council on Dental Research. He will be succeeded by Dr. Sholom Pearlman, assistant secretary of the Council on Dental Therapeutics since 1951. Dr. Dean is retiring after six years on the Association staff. Before joining A.D.A., he served five years as director of the National Institute of Dental Research, Bethesda, Md. Dr. Dean was an officer of the U. S. Public Health Service during 1921 to 1953. The retiring secretary's research on fluorine has won him numerous awards. Dr. Pearlman came to the Association in 1951 from the faculty of the School of Dentistry, Western Reserve University, Cleveland, where he taught biochemistry. A native of Ottawa, Canada, Dr. Pearlman was graduated in 1945 from the Faculty of Dentistry, University of Toronto, and received an M.S. degree in 1951 from Western Reserve.

Hospital Dental Services

The need for developing adequate dental services in hospitals will be stressed at a regional conference being held Monday through Wednesday, Oct. 26-28, at the Leamington Hotel, Minneapolis, by the American Dental Association.

The need for establishing proper hospital facilities has been cited as one of the major problems facing organized dentistry in the United States as it prepares to enter its second century in 1960.

Dr. Percy T. Phillips of New York, president of the Association, has declared that too many hospitals still lack facilities for providing dental services of any kind—including those of an emergency nature. He warned that the dental profession must educate its members not to be completely satisfied with private office practice.

Education on Fluoridation Needed, Survey Reveals

Fluoridation is not a topic of general interest to the public in most countries, according to a survey prepared by the Secretariat of the Federation Dentaire Internationale. The survey cited need for educational programs similar to the one in the United States to advise respective publics of benefits obtainable from fluoridated drinking water. It was noted that apart from the U. S. and Canada principles of the procedures are not implemented with government support on a national scale in any country. Chile and Czechoslovakia were found to be proceeding with fluoridation on a large scale. However, the survey disclosed that several countries have considered it desirable to conduct their own research to determine the effects of fluoridation. Other factors, such as finance and lack of community water service, were determined by the survey to be influencing spread of fluoridation.

Dental Laboratory Relations

The Supreme Court of Washington recently upheld a lower court order enjoining a dental laboratory operator from taking impressions, and making, repairing, altering or supplying an artificial denture for any person without a written prescription or order from a licensed dentist.

A Chicago dental technician recently received a 60 day jail sentence after pleading guilty of a charge of practicing dentistry without a license. The technician was accused of extracting seven teeth from a woman who had complained of a toothache. According to newspaper reports, the woman's jaw popped out of place during one extraction and "he blithely informed her that a tooth root 'hooked around the jaw bone'".

10th Annual Dental Health Conference of the A.D.A.

"The capacity and efficiency of nearly all dental offices need to be constantly improved to meet the present demands for dental care," Dr. Robert K. Stinaff of Akron, Ohio, reminded the conference participants in his discussion of "The Effect of Dental Hygienists and Dental Assistants on the Production of Dental Care." Among the observations of the immediate past president of the American Academy of Dental Practice Administration were that many nonprofessional duties can be assigned to auxiliaries to free the dentist for more operative time and that these duties need constant expansion, that employment of auxiliaries is reflected in a larger gross volume of dentistry, a greater net income and an increase in the number of patients that can be treated and that expanded educational facilities are necessary to handle both the initial training and the continuing education programs. In many cases, he said, the training will have to be a part of the office structure.

"The amount of dental service provided the public by one dentist during his lifetime is in direct proportion to how well he learns to work with assistants," was the conclusion of Dr. George W. Glann of Iowa City, Iowa, who discussed "The Effect of Dental Hygienists and Dental Assistants on the Economics and Management of the Dental Practice." Dr. Glann, a widely known lecturer in practice administration, is presently a graduate student at the University of Iowa College of Dentistry. Influencing the volume of the dentist's service also, Dr. Glann emphasized, are the qualities and the training of his employees, and their effort "is motivated or demoralized, depending on the administrative success or failures of the dentist."

'History of A.D.A.' to be Available During Centennial Session

"A History of the American Dental Association" will be available for distribution during the centennial session, according to Dr. Lon W. Morrey, Chicago, A.D.A. editor. The volume, expected to run 520 pages with

text and illustrations, will be printed in two editions—deluxe at \$12.50 a copy and regular at \$8.00. Author of the history which recounts 'a century of health service' is Dr. Robert W. McCluggage of the history department, Loyola University, Chicago. In addition to being available in New York, the book may be ordered from the Association, Order Department, Desk 380, 222 E. Superior St., Chicago 11.

Senate Unit Approves \$439,000 More for Dental Health Activities

An additional increase of \$439,000 for dental health activities—as recommended by the A.D.A.—is included in the Health, Education and Welfare appropriations bill approved by the Senate Appropriations Committee. The committee report specifically marks \$373,000 of the increase for training grants and fellowships. Remainder of the sum is expected to be for operations of the National Institute of Dental Research, Bethesda, Md. Action of the Senate group on June 24 brings to \$10,164,000 the total recommended for dental health and research activities under auspices of NIDR.

Start Work on New Building of National Library of Medicine

Groundbreaking ceremonies for the new \$7 million building of the National Library of Medicine have been held at the National Institutes of Health, Bethesda, Md. When completed in 1961, the new structure will house the world's greatest collection of medical literature. The collection now is in an outmoded structure at 7th and Independence Avenue, S.W., Washington, D.C. The new building will have five floors, three of which will be below ground level. Space will be provided for a million and a quarter bound volumes. At the ceremonies was Dr. Basil G. Biddy of Rochester, N.Y., who represented the dental profession on the Library's board of regents.

NOTICE OF MEETING

The centennial celebration of the American Dental Association, New York, N.Y.

September 14 - 18, 1959.

THE CORPS

Colonel Harris Visits R.C.D.C. School

Colonel H. L. Harris of the Directorate of Dental Services, Ottawa, visited The R.C.D.C. School, Camp Borden, Ontario, for four days in the latter part of June.

During his visit Colonel Harris represented the Director General of Dental Services at the opening of the R.C.D.C. (Militia) course on Management of Mass Casualties.

In a ceremony at The R.C.D.C. School, Colonel Harris also presented captaincies to five new dental officers who had just completed their Special to Corps training.

New Officers in the Corps

Thirteen new dental officers have been appointed to the R.C.D.C.(R) following graduation:

Captain J. F. Begin, D.D.S., B.A., of Moncton, N.B. Graduated from the University of Montreal and posted to No. 15 Dental Company, Quebec Command, Montreal.

Captain R. D. H. Bunt, D.D.S., B.Sc., of St. John's, Nfld. Graduated from McGill University and posted to No. 15 Dental Company, Quebec Command, Montreal.

Captain J. S. E. Doiron, D.D.S., B.A., of Rustico, P.E.I. Graduated from the University of Montreal and posted to No. 13 Dental Company, Central Command.

Captain R. J. Gillis, D.D.S., of Campbellton, N.B. Graduated from Dalhousie University and posted to No. 14 Dental Company, Prairie Command, Winnipeg.

Captain R. J. Lewis, D.D.S., B.Sc., of Annapolis Royal, N.S. Graduated from Dalhousie University and posted to No. 12 Dental Company, Eastern Command for employment at H.M.C.S. "Cornwallis," N.S.

Captain F. W. Lovely, D.D.S., of Florenceville, N.B. Graduated from Dalhousie University and posted to No. 12 Dental Company, Eastern Command, Halifax, N.S.

Captain J. J. Mitchinson, D.D.S., of Niagara Falls, Ont. Graduated from the University of Toronto and posted to R.C.A.F. Station, Trenton, Ont.

Captain J. R. Myles, D.D.S., of Ottawa, Ont. Graduated from the University of Toronto and posted to R.C.A.F. Station, Downsview, Ont.

Captain J. C. R. R. Roy, D.D.S., B.A., of Quebec City. Graduated from the University of Montreal and posted to No. 15 Dental Company, Quebec Command, Montreal.

Captain J. R. Senechal, D.D.S., B.A., of Mont Joli, Que. Graduated from the University of Montreal and posted to No. 15 Dental Company, Quebec Command, Montreal.

Captain C. G. Travis, D.D.S., B.Sc., of Halifax, N.S. Graduated from Dalhousie University and posted to No. 13 Dental Company, Central Command.

Captain D. A. Warrick, D.D.S., of Windsor, Ont. Graduated from the University of Toronto and posted to R.C.A.F. Station, Clinton, Ont.

Captain J. B. Wilcox, D.D.S., B.Sc., of Craven, England and Sherbrooke, Que. Graduated from McGill University and posted to No. 11 Dental Company, Western Command, Edmonton, Alta.

Postings Overseas

The following dental officers have been posted to Europe for a tour of duty with the units indicated:

Major E. M. C. Franklin of Digby, N.S.—To No. 35 Field Dental Unit, Metz, France from H.M.C.S. "Stadacona," Halifax, N.S., effective July 1959.

Captain G. T. Crossman of Sackville, N.B.—To No. 4 Field Dental Company, Germany from Fort Churchill, Manitoba, effective June 1959.

Major Cobb Returns from Overseas

Major T. D. Cobb has returned to Canada after completing a tour of duty with No. 4 Field Dental Company in Germany. He has been posted for duty with No. 11 Dental Company, Western Command, effective in July 1959.

Postings in Canada

The following postings of dental officers have recently taken place in the Corps throughout Canada:

Major J. C. Brick of Windsor, Ont.—To the Directorate of Dental Services, Ottawa from Camp Petawawa, Ont., effective August 1.

Major R. A. Fell of Winnipeg, Man.—To No. 11 Dental Company, Western Command from R.C.A.F. Station, Chatham, N.B., effective July 1.

Major J. J. Walker of Toronto—To R.C.A.F. Station, Cold Lake, Alta., from R.C.A.F. Station, MacDonald, Manitoba, effective June 1.

Major J. M. A. Donely of Listowel, Ont.—To A.F.H.Q. Dental Clinic, Ottawa from R.C.A.F. Station, Goose Bay, Labrador, effective July 1.

Major J. M. Smith of Vancouver, B.C.—To R.C.A.F. Station, Goose Bay, Labrador from H.M.C.S. "Cornwallis," Cornwallis, N.S., effective July 1.

Major J. E. Hughson of Galt, Ont.—To The R.C.D.C. School, Camp Borden, Ont. from R.C.A.F. Station, Clinton, Ont., effective July 1.

Captain V. A. Low of Carmanagay, Alta.—To R.C.A.F. Station, Goose Bay, Labrador from R.C.A.F. Station, Namao, Edmonton, Alta., effective June 1.

IN MEMORIAM

Joseph Albert Gauthier — Dr. Joseph Albert Gauthier of Ottawa, Ontario, died on June 3rd, following a long illness. He was 65.

Dr. Gauthier was born at Bourget, Ontario, in May 1893. He was educated at the University of Ottawa, and graduated from the R.C.D.S. in 1922, and practised in Ottawa for 37 years.

He was a charter member of the Ottawa-Hull Richelieu Club, and a member of the League of the Sacred Heart and the St. Jean Baptiste Society. He served overseas for two years in the First World War with the tank corps.

Dr. Gauthier is survived by his widow, a son, Edward, two daughters, Mrs. R. B. Charlebois and Mrs. A. J. Piasecki; two sisters, Mrs. J. P. Tardif, and Mrs. J. Roy, and eight grandchildren.

Archibald Milloy — Dr. Archibald Milloy died in Vancouver on May 29, 1959, aged 97 years.

He was born in Toronto and received his education there, graduating from the Univer-

sity of Toronto. He registered in Vancouver in 1896 and retired in 1946.

In 1906 he became one of the original members of the Vancouver Racing Association. He was a member of Garden Village Presbyterian Church and a life-long member of the Pacific National Exhibition.

Predeceased by his wife, he is survived by one brother, J. G. Milloy of Edmonton.

Clark Alexander Porter — Dr. Clark Alexander Porter of North Bay, Ontario, died on June 3rd. He was 56.

Dr. Porter was born at Powassan, Ontario, in 1902. He received his early education in Powassan and the North Bay Collegiate Institute, and he graduated in dentistry from the University of Toronto in 1925. Following his graduation Dr. Porter began his career in Powassan and later practised in Virginiatown. In 1944 he moved to North Bay and remained there until his death.

Surviving are his widow, Kathleen, one daughter, Barbara; one son, John; a brother, W. James, and four sisters, Ethel, Margaret, Jean and Isabel.

THE PROVINCES

ALBERTA

University of Alberta

Post Graduate Short Courses in dental care for children were held from May 11th to May 15th. Courses in Orthodontics and Dentistry for Children were run concurrently with several lectures and clinical sessions taken in common by all participants.

Fifteen dentists attended the course in Orthodontics and five attended the course in Dentistry for Children. While most of the participants were graduates of Canadian schools, Dr. E. A. Bartoletti and Dr. D. R. Bilden of Montana and Dr. D. Norman from Washington also attended. R.C.S.



Western Registrants for short courses in Dentistry for Children

City Dentist Honoured

Dr. C. Spencer Lea was appointed Queen's Honorary Dental Surgeon recently. Announcement was made by the defence department, Ottawa in May. Dr. Lea's name is one of 11 honorary physicians, nursing sisters and dental surgeons from Canadian forces whose appointments have been approved by the Queen.

Dr. Lea is a colonel in the R.C.D.C. militia, joining the Corps in 1940. His appointment is for two years.

BRITISH COLUMBIA

B. C. Dental Association—Annual Convention

In the Hotel Vancouver's cream and gold ballroom there were crowded sessions when the 43rd annual convention on May 28, 29, 30 got under way. The convention chairman Dr. Jack Lewis called on Rev. Patrick Ellis to give the invocation. Then the president Dr. W. P. Munsie introduced the guest speaker, Hon. Eric Martin, B. C. Minister of Health and Welfare, who explained the government's favorable attitude toward the founding of a dental faculty at U.B.C. and blamed the university authorities for its non-

establishment. He urged B. C. dentists to continue pressure for the opening of a dental school as rapidly as possible.

Dr. Charles Whitworth, president of the College of Dental Surgeons, introduced Dr. Don Gullett, Secretary of the C.D.A., who brought greetings from the parent organization.

Dr. Keith Lindsay presented the first scheduled essayist, Dr. R. A. McEwen of Atlanta, Georgia. He proved to be a lecturer of parts and in reviewing the fantastic development of ultra speed in dentistry he stated that many points had been stabilized and removed from the experimental stage.

The advantages of high speed were cited as controlled power, better preparations, reduction of trauma for the pulp, to the patient and to the operator. The hyperemias of pulps have almost disappeared. Speed over 60,000 RPM is above the patient's perception of vibration. The operator is not tired out at the end of the day.

It is essential for the operator to be able to see what he is doing and to have the sense of touch, and for this reason Dr. McEwen felt that high speed should be stabilized at about 150,000 to 200,000 RPM.

Dr. K. R. Cantwell of Portland, Oregon, was introduced by Dr. Wm. Scott. This lecture dealt with the research aspects of high speed. The cut surfaces were examined under magnification and it was found that slow speeds cut by fracturing action, not by a milling action as in the case of high speed.

"Creating the illusion of natural teeth" was the subject of Dr. Roland D. Fisher of Glendale, California. He emphasized dynamic symmetry in the selection and arrangement of teeth.

Dr. Fisher gave a closed circuit TV presentation on the setting of anterior teeth with three patients of three age groups. At this lecture there was scarcely standing room.

Dr. Douglas Yeo, chairman of the public relations committee, introduced the P.R. counsellor, Douglas W. Smith, who spoke on "How do you rate with your patients?" This was a report of the findings of the recent B. C. survey, both external and internal, and it recounted what the public thinks of us, and what we think of each other. There were some unpalatable facts to digest, and the task now will be to formulate a program to ameliorate the conditions that prevail. Mr. Smith finished his hour-long address with an impassioned plea that we strive ceaselessly to maintain the autonomy and the freedom of the dental profession.

Victoria and District Dental Society

Cocktails preceded dinner and the annual meeting, which was held on May 25 in the Empress Hotel.

After annual reports were given, the nominating committee under the chairmanship of Dr. T. H. Johns proposed a slate of officers for the coming year and these were accepted unanimously: President: Dr. David Parfitt; Vice-president: Dr. R. L. Horne; Secretary: Dr. W. D. McDougall; Treasurer: Dr. W. W. McLuhan; and Directors: Drs. B. Kjekstad, George Russell and Ray MacDonald.

Fraser Valley Dental Society

Guest speaker at the April meeting was Dr. Blair Fulton of the Vancouver Anaesthetic Service whose subject was toxic reactions to local anaesthetics. This was such a brilliant lecture that Dr. Fulton has been persuaded to have it published.

Dr. Maurice Chechik spoke at the May meeting on "Problem Retention of Gold Restorations". This brought back to many the fact that nearly all improvements in technique are developed by practising dentists. Dr. Chechik also demonstrated the use of various instruments in the packing and carving of amalgam restorations.

Elections for the 1959-60 term were held and the results were: President: Dr. K. W. McCann; Secretary-Treasurer: Dr. R. S. Tsuyuki; District Chairmen: Drs. G. R. Young, E. G. Bartz, L. B. Alexander, N. L. Crabtree; Dental Health Representative: Dr. E. Y. Minato, and B.C.D.A. Representative: Dr. J. A. Alexander. D. H. M.

ONTARIO

Ontario Dentists' Curling Association

At the annual meeting of the association held on Tuesday, May 12, 1959, at the Royal York Hotel, the following officers and directors were elected: President, Dick Rogers, Welland; vice-president, John Brock, Oshawa; secretary-treasurer, Bruce Johnston, Barrie; directors: Carl Moyle, Hamilton; M. G. McCartney, Peterboro; W. R. Riseborough, St. Thomas; Ger. Hinds, Walkerton; Ralph Cox, Oshawa, and T. R. Marshall, G. V. Morton, J. MacLaurin, all of Toronto.

Arrangements have been made to hold this year's bonspiel at Welland on Wednesday, November 18th. B. M. J.

Niagara Peninsula Dental Association

The Niagara Peninsula Dental Association held its Annual Golf Tournament at the St. Catharines Golf Club on Thursday, June 4, 1959.

The Tournament turned out to be the most successful yet, with participants coming as far away as London, Kitchener, Orillia, Hamilton and Toronto.

Dr. Ted Walker of Port Colborne won the trophy for low net, and Dr. Lou Channell of St. Catharines and Dr. Ed. Nakashima of Toronto tied for low gross.

One hundred and eleven took part in the Golf Tournament, and one hundred and twenty-one enjoyed a man-sized steak dinner.

The executive wishes to extend its thanks to all the members of the Association, as well as all the guests that were present, for their part in helping to make this such a successful event.

A. L. A.

Essex County Dental Association

A general meeting of the Essex County Dental Association was held on May 19th, at which time the new executive was elected and installed.

The following are the elected members: President, Dr. W. J. Pritchard; vice-president, Dr. J. W. Wilson; treasurer, Dr. L. J. Schiller, and secretary, Dr. J. E. Austin.

The Association is looking forward to another successful year in Essex County and will endeavour to co-operate and aid the Canadian Dental Association in every way possible.

J. E. A.

QUEBEC

Dr. L. E. Kent, Sr. Honoured

On Monday June 8th, 1959, at the Summerlea Golf and Country Club, some four hundred friends paid tribute to a man who spent his life in the service of friends, patients and colleagues. This was a testimonial for his great work to the community at large by those who were closely associated with him.

Dr. L. E. Kent, Sr. has now retired from a most active practice in Lachine, after having served there for the past thirty-six years. He will be missed by a great number of his patients who respected and even loved the man who in his quiet and unassuming way gave the highest degree of service to them.

During the war he was in active service overseas for several years and served an additional period of eight years in the Militia. He retired from the Dental Corps with the rank of Full Colonel. He was awarded the M.B.E., and also was an honorary Dental Surgeon to the Queen.



DR. L. E. KENT, SENIOR

Professionally he has held office in the Montreal Dental Club, the Montreal Endodontic Society, the Quebec College of Dental Surgeons, the Canadian Cancer Society and the Lachine V.O.N.

These are but a few of the highlights of a very distinguished career and this testimonial bears witness to the quality of this noble man—Dr. Leonard E. Kent, Sr., and the respect in which he is held.

A. J. S.

A Message from Dean Emeritus Ernest Charron

Doctor Ernest Charron would like to extend his thanks to all who honoured him on the occasion of his retirement from the University of Montreal, and would convey his special appreciation to those whose generous contributions, at that time, provided the funds necessary for a portrait of himself now hanging in the University, and for the endowment of an annual prize in the Faculty of Dentistry in his name.

Dean Charron is deeply moved by the kindness of this recognition, counting it as he does the true embodiment of friendship whose nicest virtue is the acceptance of a friend as he really is, making much of his attainments and light of his shortcomings.

SASKATCHEWAN

Saskatoon Dental Society

At the June meeting of the Saskatoon Dental Society, the officers for the next year were elected as follows: President, Dr. S. Gelmon; vice-president, Dr. H. Locke, and secretary-treasurer, Dr. J. MacKay.

The occasion was the annual golf day and a good number were in attendance.

The members of the University Hospital Dental Staff elected their officers for the year — Dr. L. D. Haselton, Chairman, and Dr. S. Gelmon, Secretary.

L. D. H.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario (Centennial Celebration of Dentistry in Ontario)	May

FUTURE EVENTS

Date	Function	Location	Officer	Address
Sept. 13-15, 1959	Eastern Ontario Dental Ass'n. Convention	Chateau Laurier Hotel, Ottawa	Dr. H. C. Budgen,	183 Metcalfe St., Ottawa, Ont.
Oct. 26, 1959	Academy of Dentistry Annual Dinner	Royal York Hotel, Toronto	Dr. R. M. Grainger,	Faculty of Dentistry, 230 College St., Toronto 2B.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
Dec. 6, 1959	American Academy of Dental Medicine Mid- Annual Meeting	Hotel Sheraton- McAlpin, New York City	Dr. A. J. Cannistraci,	2152 Muliner Ave., New York 62, N.Y.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

UNIVERSITY OF ALBERTA

A short course in Endodontics—August 31 to September 3, 1959.

Address enquiries to: Division of Post Graduate Studies, Faculty of Dentistry, University of Alberta, Edmonton, Alberta, marked attention of Dr. K. A. McMurchy.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY

Intensive Participation Course—Clinical Endodontic—October 26, 27, 28, 29, 30, 31, 1959, 9 a.m. to 5 p.m. Class limited. Tuition \$175.00.

For further information: Postgraduate Division, Temple University School of Dentistry, 3223 North Broad St., Philadelphia 50, Penna.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

Comprehensive Demonstration Course in Complete Denture Construction — October 28, November 4, 18, 25, 1959. Tuition \$125 — Class limited.

For further information: Director of Graduate & Postgraduate Studies, 136 Harrison Ave., Boston, Mass.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Refresher Courses: Oct. 3, 4, 1959—Oral Rehabilitation
Oct. 10, 11, 12, 1959—Hypnosis Applied to Dentistry
Oct. 17, 18, 1959—Insurance Investments & Estate Planning
Oct. 24, 25, 26, 1959—Root Canal Therapy
Oct. 30, 31, Nov. 1, 1959: Crown & Bridge Prosthodontics with emphasis on postic construction & fused porcelain veneers.

For further information: Refresher Course Program, University of Alabama School of Dentistry, 1919 Seventh Ave. South, Birmingham, Alabama.

THE INTERNATIONAL SOCIETY FOR CLINICAL AND EXPERIMENTAL HYPNOSIS

The Canadian Division of the International Society for Clinical and Experimental Hypnosis invites application for Associate and Full Membership in the Canadian Division. Applicants must hold an M.D., D.D.S., or Ph.D. degree from recognized Universities and have had some experience in the use of hypnosis in the field of their competency.

The Canadian Division is one of twenty-five Divisions of the International Society for Clinical and Experimental Hypnosis representing twenty-five countries throughout the world. Applicants should write to Dr. Morton Korenberg, Medical Arts Building, 1538 Sherbrooke St. West, Montreal, giving full particulars of training.

Other further information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

JOURNAL

Influence de l'anatomie sur les maladies de la membrane périodentaire *

par ARTO DEMIRDJIAN, D.D.S., Montréal

La membrane périodentaire est le tissu conjonctif qui entoure la racine de la dent et l'attache à l'os alvéolaire; il se continue avec le tissu conjonctif de la gencive.⁽⁵¹⁾

La suspension de la dent dans la cavité alvéolaire et l'absorption des forces masticatoires se font par l'intermédiaire des fibres de la membrane périodentaire.⁽³⁶⁾ D'après Boyle⁽⁶⁾ et Churchill⁽¹¹⁾, c'est un système hydraulique provenant des fluides des vaisseaux de la membrane périodentaire qui supporte les pressions masticatoires sur les dents.

D'après ces relations intimes entre les tissus environnants (os alvéolaire, gencive, vaisseaux, etc. . . .) et la membrane périodentaire, tout désordre à ce niveau influencera directement la membrane périodentaire. D'ailleurs, dans les conditions normales, les tissus nommés ci-dessus sont en relation harmonieuse et forment le périodontium. En d'autres mots, c'est une

balance dynamique entre les influences physiologiques locales et constitutionnelles qui existent à l'état normal⁽¹⁸⁾. Tout déséquilibre dans cette balance ou désordre dans l'interrelation des tissus périodontaires peuvent être causés par des facteurs intrinsèques ou constitutionnels et des facteurs extrinsèques ou locaux⁽⁵⁴⁾.

Les facteurs constitutionnels peuvent être groupés comme suit:

- Nutritionnels. Vit. A-B-C-D
- Endocrinologiques
- Hématologiques et circulatoires
- Psychologiques

Les facteurs locaux sont:

- Tartre et dépôts
- Bactéries
- Anatomie des dents, articulation temporo-mandibulaire, muscles masticateurs et autres (joues, langue, lèvres), os alvéolaire, etc.

*Travail qui a gagné le premier prix du Concours du Mémorial de Guerre de l'A.D.C. pour 1959

— Occlusion traumatique causée en partie par les facteurs anatomiques énumérés ci-dessus

— Habitudes

— Autres facteurs locaux.

RÔLE DE L'ANATOMIE DES DENTS ET DE LEURS TISSUS ENVIRONNANTS

A. — Considérons en premier lieu le rôle des tissus qui environnent les dents. Les plus importants parmi eux sont: l'os alvéolaire, les muscles de la joue, des lèvres, de la langue et de la mastication, les freins, la gencive, l'articulation temporo-mandibulaire et enfin les adénoïdes.

Os alvéolaire

L'os alvéolaire est le tissu de soutien primordial et essentiel des dents. Un changement anatomique à son niveau peut être la cause de maladies péri-dentaires. La théorie du "Bone Factor" peut expliquer la nature et les circonstances de ces changements. D'après Glickman⁽²³⁾, c'est "l'influence de la régulation constitutionnelle sur l'os alvéolaire". Le niveau osseux est maintenu par un équilibre physiologique entre la formation et la résorption osseuse. Cet équilibre physiologique est réglé par des facteurs locaux et généraux. Des autopsies ont montré que l'état de l'os alvéolaire est une réflexion des conditions osseuses du reste du squelette.

(24-15-16)

Cette théorie démontre deux choses:

a) La manière par laquelle différentes influences d'ordre général altèrent la réponse de l'os alvéolaire aux irritations locales.

b) La manière par laquelle différentes influences d'ordre général provoquent la destruction des tissus péri-dentaires en l'absence d'irritations locales.

Le "Bone Factor" est un déterminant essentiel de la résorption plus ou moins importante de l'os alvéolaire. Il reste tout de même associé aux autres facteurs destructifs locaux dans les maladies péri-dentaires chroniques.

D'après Glickman⁽²⁵⁻²⁾, il existe un "Bone Factor" positif, selon que le cours et l'importance de la lyse osseuse sont minimes comparés à la nature, et la durée des facteurs locaux existants. Il est négatif,

si le degré de la perte osseuse est excessif comparativement aux facteurs locaux. Le "Bone Factor", tout en étant un facteur constitutionnel, nous intéresse aussi parce qu'il influence l'anatomie de l'os alvéolaire par la régénération et la résorption, créant ainsi un support plus ou moins rigide pour les dents, dont dépendent les maladies péri-dentaires.

Rôle des muscles

Les muscles jouent deux rôles:

a) Influence directe sur les dents, par leur pression.

Ex.: langue, lèvres, muscles de la joue et de la face.

b) Influence sur l'occlusion par leur tonus.

Ex.: muscles masticateurs.

La pression de la langue joue un rôle important, soit par le volume de celle-ci, soit par une habitude. Cette pression peut occasionner des diastèmes entre les antérieures et provoquer des maladies péri-dentaires. Parfois même, la pression de la langue est à l'origine d'une résorption osseuse au niveau des racines palatines des molaires supérieures⁽⁵²⁾.

La force exercée par la langue, si elle n'est pas compensée par d'autres mécanismes, peut aggraver la réaction du périodontium aux autres facteurs étiologiques de maladies péri-dentaires⁽³⁸⁾. La littérature mentionne plusieurs cas d'"Open Bite" causés par la langue.

La pression de la langue et la tendance normale qu'ont les dents à mésialer sont contrebalancées par le rôle des muscles: orbiculaires des lèvres, canins, zygomatique, carré de la lèvre supérieure et inférieure, mentonnier et buccinateur.

Angle⁽⁶⁰⁾ croit primordiale la fonction du buccinateur, de l'orbiculaire des lèvres et du constricteur supérieur du pharynx. Ces trois muscles forment une bande continue de tissus contractils, ayant comme point d'ancrage la base du crâne et la portion supérieure de la colonne vertébrale.

Les muscles masticateurs peuvent aussi causer des "Open Bites" et des "Over Bites" par hypofonction ou par hyperfonction. Ils deviennent ainsi des causes

indirectes de maladies périodentaires. (Fig. 1)

En somme, la constitution anatomique et l'action simultanée de la langue, des muscles de la face et des muscles masticateurs maintiennent l'équilibre de l'arcade dentaire et, conjointement avec les points de contact et l'occlusion, préviennent tout désordre du périodontium.

Rôle des freins

Le frein labial situé très haut au niveau des incisives mandibulaires peut causer le retrait de la gencive. Cette situation s'explique ou par l'attraction du frein sur le bord gingival ou par le fait que la gencive ne suit pas la dent au moment de son éruption. Cette constatation se fait moins fréquemment au niveau du frein lingual (53).

Rôle de la gencive

Parfois une seule dent ou un groupe de dents font leur éruption plus rapidement que leurs voisines. La gencive ne pouvant pas suivre ces dents en éruption reste au même niveau que les dents adjacentes. Ainsi on voit des racines dénudées, causes de maladies périodentaires (53).

Rôle de l'articulation temporo-mandibulaire (43-39-20-61-30)

L'articulation temporo-mandibulaire, par l'intermédiaire de l'occlusion, a une relation indirecte avec les maladies périodentaires. Nos connaissances à ce sujet sont encore bien minimes, malgré tout ce qui a été écrit sur l'anatomie et la physiologie du système masticatoire.

On s'entend sur l'importance de la relation entre l'occlusion des dents et l'articulation temporo-mandibulaire. Des auteurs disent que cette articulation est inaltérable; d'autres qu'elle est en perpétuelle évolution. La littérature contient des divergences profondes sur la physiologie de l'articulation temporo-mandibulaire.

B.—En second lieu, voyons l'influence de l'anatomie des dents sur les maladies de la membrane périodentaire (55-19-34-27-46).

La santé des gencives et des dents subit l'influence directe des cuspes, des sillons, des formes de contour, des racines, des

points de contact et de la position des dents sur l'arcade.

Les cuspes et les sillons

Les relations anormales des cuspes sont des causes fréquentes de périodontoclasie. On peut les considérer comme les facteurs les plus irritants de la crête alvéolaire. La dent elle-même devient ainsi la cause de sa propre perte. Il est difficile, d'après plusieurs auteurs, de mettre une différence entre les relations harmonieuses des cuspes et l'occlusion traumatique (68).

De même, des cuspes trop élevés et des sillons trop profonds sont des causes d'occlusion traumatique.

Forme de contour buccal et lingual (44)

C'est un point très important, parce que, si la dent normalement ou après une restauration, a une forme de contour telle qu'illustrée dans le schéma (1-a) la gencive en subira la première les contrecoups, car les forces de la mastication refoulent alors la nourriture directement sur elle. Mais, au contraire, si elle possède un contour normalement bombé (schéma 1-b), les aliments dévient vers l'extérieur et la gencive reste saine.

Même après un traitement périodentaire, si la forme de la couronne a changé (schéma 2-a), il faut lui restituer sa forme de contour anatomique normale par une restauration pour respecter la relation entre la dent et la gencive. Toute la couronne doit être accessible au nettoyage par la salive et la brosse à dent.

Il ne suffit pas d'avoir seulement cette forme de contour convexe mais il faut l'avoir en bonne place, ni trop haut, ni trop bas.

Un cingulum peu développé des dents antérieures peut favoriser une pression de la nourriture sur la gencive. (schéma 3)

De même, si le collet des dents est trop gros, la papille interproximale ne peut se loger normalement. Cette anomalie se rencontre aussi à la suite des travaux de restaurations (schéma 4).

Forme et dimension des racines

Si les racines sont volumineuses et trop près les unes des autres, il en résulte un manque d'espace entre elles (schéma 4) et la membrane périodentaire est coincée (46).

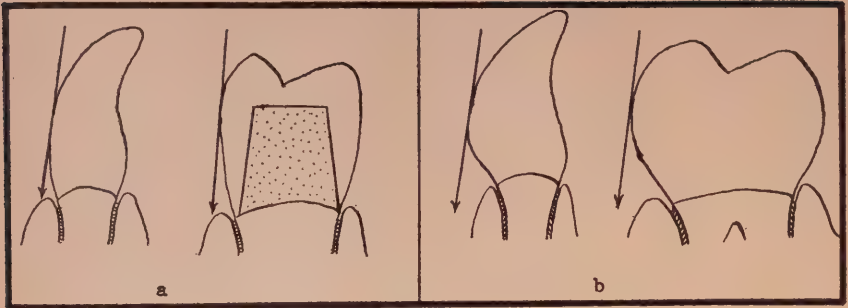


Schéma 1

La circulation sanguine du périodontium est gênée. C'est un principe bien établi que plus les racines adjacentes sont rapprochées, plus la papille interproximale est haute; inversement si les racines sont éloignées, la papille plus aplatie et moins élevée⁽³⁴⁾.

Le rapport entre les dimensions de la couronne et de la racine est aussi important au point de vue occlusion traumatique. Ex.: racine courte avec une couronne longue.

Point de contact⁽⁶²⁾

Le point de contact joue un rôle primordial dans la rétention alimentaire et l'occlusion traumatique. Sa plus grande fonction consiste à préserver la papille interdenteaire. Ce point doit être situé ni trop haut, ni trop bas pour ne pas permettre des rétentions alimentaires et traumatiser ainsi la gencive (schéma 6).

Les caries secondaires dues à des obturations défectueuses causent la destruction d'une seule dent. Mais un point de contact impropre peut causer la formation de sac et la périodontoclasie, non seulement dans son voisinage immédiat, mais dans l'arc tout entier. L'une des raisons principales du remplacement des dents extraites est de maintenir l'intégrité de l'arc par les points de contact.

Le manque de point de contact d'une dent peut aussi causer une occlusion traumatique parce que la mastication se concentre alors sur cette seule dent. C'est une

prédisposition à une maladie périodentaire dans un avenir rapproché.

Position des dents sur l'arcade⁽⁹⁻¹⁰⁻⁴⁷⁾ (Voir Fig. 2)

Les dents en malposition font une pression sur les tissus interproximaux et occasionnent une diminution de la circulation périodentaire et des difficultés pour le nettoyage. Une dent en dehors de la ligne peut déranger toute l'occlusion.

Des clapiers se forment rapidement par manque de support, si les racines sont rapprochées plus que la normale.

Les dents en malposition ont aussi un point de contact défectueux, et ainsi favorisent l'accumulation de nourriture sur la papille interproximale.

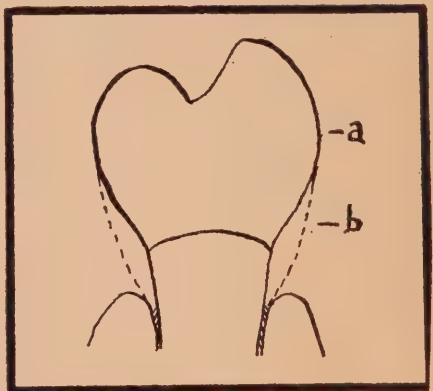


Schéma 2

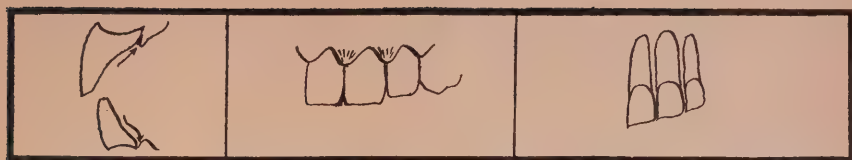


Schéma 3

Schéma 4

Schéma 5 (Miller)

Si la dent est située linguement ou buccalement, il peut se produire des maladies péri-dentaires causées: par manque de nettoyage, traumatisme excessif de la brosse ou bien par occlusion traumatique (schéma 7). X et x' sont des points équidistants sur les deux dents, mais les différences dans les courbures buccales et la malposition des dents produisent de grands changements d'accès dans la prémolaire et la molaire.

Les observations précédentes montrent que les maladies péri-dentaires sont le résultat d'une perturbation anatomique de tous les tissus péri-dentaires qui sont liés intimement et inséparablement, comme par ex: la forme de la papille interproximale dépend de la forme de la racine et de la couronne. L'épaisseur de la membrane péri-dentaire dépend de la position des dents, etc. . . . etc. . . .

L'anatomie de la dent et de ses tissus environnants constitue un tout interdépendant dans l'apparition des maladies péri-dentaires.

II. RÔLE DE L'OCCLUSION

L'occlusion traumatique est un autre facteur étiologique important qui influence l'état de la membrane péri-dentaire et qui subit les facteurs mentionnés ci-dessus.

On peut la relier à des causes anatomiques, puisque dans son étiologie même on voit entre autres des facteurs anatomiques connus: (12-31-35) malposition des dents, engrenage des cuspes, présence de cuspes élevés et de sillons profonds, etc. . . . etc.

Quelques notions sur l'occlusion normale s'imposent avant d'étudier l'occlusion traumatique et ses effets sur la membrane péri-dentaire.

a) La fermeture naturelle et l'adapta-

tion des dents supérieures et inférieures, la relation des dents du maxillaire supérieur et de la mandibule lorsqu'ils sont fermés ou durant les excursions de la mandibule.⁽⁶⁹⁾

b) Les relations normales des plans d'occlusion inclinés des dents, lorsque les mâchoires sont fermées.⁽⁷⁾

c) Le contact des dents supérieures et inférieures durant leur parcours fonctionnel.⁽⁶⁶⁾

d) Le complex anatomophysiologique présent lorsque les dents antagonistes sont en contact. Ceci consiste dans les relations de position, de stress, d'effort et de résistance des structures (dents, tissus de support, articulation temporo-mandibulaire et muscles).⁽⁷²⁾

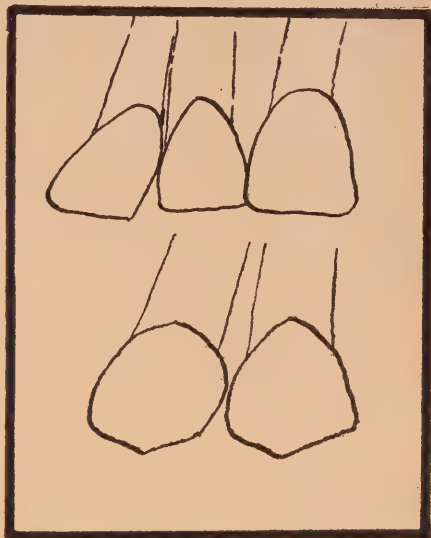


Schéma 6 (Glickman)

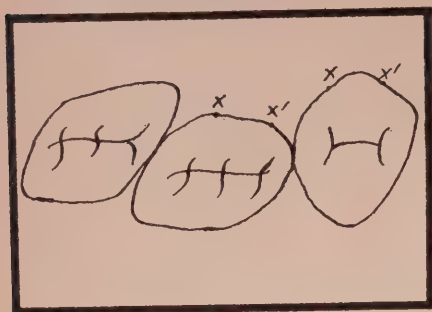


Schéma 7

Pour faire ressortir plus nettement la relation entre l'occlusion et la membrane périodontaire, il faut insister sur le fait que:

Tous les domaines de la dentisterie s'intéressent à l'occlusion, l'occlusion intéresse les dents, les dents intéressent la membrane périodontaire. Donc la membrane périodontaire dépend de l'occlusion.

On sait par ailleurs⁽²¹⁾ que les forces de l'occlusion sont des forces naturelles qui résultent des relations anatomiques et fonctionnelles des dents et de leurs structures adjacentes. Les forces de l'occlusion fonctionnent simultanément comme une balance synchronisée. Même des désordres mineurs dans cette relation balancée peuvent être la cause de changements dans la position des dents, et ces modifications peuvent endommager et irriter le périodontium.

C'est de ce déséquilibre des forces que naît l'occlusion traumatique. Différents auteurs l'ont définie comme "Le stress occlusal anormal capable de léser les tissus dentaires et périodentaires."⁽²²⁻⁴⁸⁻⁶⁵⁾

"Une condition morbide produite par les forces mécaniques. Le traumatisme tissulaire peut être produit par des forces qui excèdent les limites physiologiques de tolérance".⁽⁵⁶⁾

"Une lésion destructive du système ou appareil d'attachement causée par un stress mal fonctionnel placé sur les dents".⁽³²⁾

"Une relation de contact inharmonieuse entre les plans inclinés et les cuspes des dents supérieures et inférieures au repos,

aussi bien qu'une fonction, qui est capable de causer ou a causé un trouble à la membrane périodontaire et aux tissus environnants".⁽⁶²⁾

"L'occlusion traumatique apparaît lorsque la résistance extensible de l'appareil suspenseur est dépassée".⁽³⁷⁾

D'après Box,⁽⁴⁻⁵⁾ il y a deux formes d'occlusion traumatique:

— Celle qui vient d'une surcharge verticale,

— L'autre causée par une surcharge horizontale.

"Malocclusion qui résulte d'une surcharge ou traumatisme sur les dents, sur les tissus périodentaires ou bien les tissus couvrant le bord alvéolaire".⁽⁷²⁾

Ces définitions mettent en valeur le rôle majeur des facteurs anatomiques dans l'étiologie de l'occlusion traumatique.

A) CLASSIFICATION DE L'OCCLUSION TRAUMATIQUE

D'après son étiologie, l'occlusion traumatique peut être divisée en:

- 1) primaire;
- 2) secondaire;
- 3) combinée.

1) Occlusion traumatique primaire

Dans l'occlusion traumatique primaire, il existe un facteur périodontaire normal avec le facteur occlusal anormal. L'importance de la force d'occlusion est si grande que la tolérance de la membrane périodontaire est dépassée. On peut dire que la seule cause est la force de l'occlusion sans la présence d'autres facteurs. On peut constater cet effet en faisant une obturation surélevée dans une bouche normale, par exemple. Alors on peut voir ses répercussions néfastes sur la membrane périodontaire, qui sont: sensibilité à la percussion, mobilité de la dent et douleur. On peut avoir aussi le même résultat avec des restaurations prothétiques inadéquates.

Pour résumer les facteurs étiologiques qui peuvent être la cause d'une occlusion traumatique, on peut les classer avec Box⁽⁴⁻⁷⁷⁾ comme suit:

- a) Les relations des cuspes: par ex.: dans le cas d'une occlusion non balancée, d'une malocclusion, des obstacles au glissement, etc.
- b) Abrasion inégale par la production de facettes sur les surfaces d'occlusion.
- c) Restaurations défectueuses: les effets des obturations, des couronnes et ponts et des crochets des partiels sont bien connus.
- d) Caries dentaires: par destruction des plans inclinés.
- e) Abrasion excessive: par perte de l'anatomie occlusale.
- f) Déplacement qui suivent les extractions.
- g) Mastication d'aliments très durs.
- h) Habitudes professionnelles ou non: port de pipe, bruxisme, etc.⁽⁴⁸⁾

2) Occlusion traumatique secondaire

L'occlusion traumatique peut aussi être secondaire à d'autres facteurs. Dans ce cas, contrairement à ce qui a été dit précédemment, le facteur occlusal est normal: c'est le facteur périodontaire qui est anormal. La force occlusale peut être normale, mais la maladie se développe à cause de l'état inadéquat du support périodontaire, c'est-à-dire, le périodontium ne peut pas supporter la force de l'occlusion normale, qui devient dans ce cas traumatisante. Les maladies périodontaires qui prédisposent à l'occlusion traumatique sont les suivantes:

- a) atrophie simple du rebord alvéolaire;
- b) périodontite simple;
- c) périécementite fibreuse.

3) Forme conjointe

Les deux facteurs précédents, occlusal et périodontaire, se combinent et la maladie périodontaire apparaît dans un cycle fermé. Par exemple, une occlusion traumatique primaire ou d'autres facteurs prédisposants placent une dent dans une position où elle reçoit un choc plus grand à cause de l'affaiblissement du support périodontaire. Comme exemple de ces effets combinés, on peut donner.

- a) l'expulsion axiale,
- b) l'impulsion latérale.

Ainsi, le plus grand nombre des facteurs étiologiques de l'occlusion traumatique sont les mêmes que ceux énumérés dans le chapitre de "L'anatomie des dents et de leurs tissus environnants." On peut dire que l'occlusion traumatique résulte d'une altération de l'anatomie des dents et de l'occlusion. Ainsi les pathologies périodontaires qui ont comme origine l'occlusion traumatique sont aussi liées à l'anatomie des dents et de leurs tissus voisins. De même, en présence d'une résistance diminuée du périodontium, le plus petit changement dans l'anatomie dentaire aggrave l'état périodontaire. Cela démontre donc le rôle important de tout changement anatomique au niveau de la dent.

B) PATHOLOGIE DE L'OCCLUSION TRAUMATIQUE

Considérons, à ce sujet, trois points particuliers: l'aspect microscopique de la membrane périodontaire, les caractères cliniques et l'aspect radiologique de l'occlusion traumatique.

1.-Aspect microscopique (3-57-33)

Des expériences ont été faites par différents auteurs sur des chiens, des singes et des autopsies humaines. Toutes ont donné des résultats semblables qui sont: hémorragie de la membrane périodontaire, dégénérescence des tissus lésés et présence de petits foyers nécrotiques. Dans le cas d'un traumatisme plus grave, on a remarqué une nécrose des tissus et la résorption de l'os alvéolaire. Coolidge a démontré que, dans des traumatismes prolongés, on pouvait voir la dégénérescence hyaline des fibres de la membrane périodontaire. La résorption osseuse se fait à l'endroit où il y a le plus de pression et vis-à-vis une reconstruction de l'os. Si la résorption est plus grande que l'apposition, l'état pathologique apparaît.

Kronfeld⁽⁴²⁾ décrit l'action d'un stress excessif, spécialement dans la direction latérale. Ce choc cause une compression et un écrasement des tissus mous entre la dent et l'os, la résorption de cet os et même de la racine. Ces lésions ont la tendance à se réparer lorsque le stress disparaît. Dans le cas contraire, la résis-

tance des tissus étant diminuée la dent devient branlante.

Dans le cas de traumatisme occlusal, on voit d'abord l'hypertrophie des faisceaux, puis formation de tissus cicatriciel.⁽⁷⁰⁾ Dans des cas plus avancés, la membrane périodentaire peut même être remplacée par du cartilage. Ceci est dû à la pression directe de la dent sur l'os alvéolaire.⁽³³⁾

A cause d'une pression verticale sur la dent et d'après l'anatomie de la racine, on peut avoir aussi un écrasement des vaisseaux nourriciers de la dent entraînant une irritation et une nécrose pulpaire; mais ces phénomènes sont rares.

2.-Caractères cliniques

Ils peuvent se résumer aux symptômes subjectifs qui sont:

- a) sensibilité à la pression,
- b) contact prématuré,
- c) bruxisme,
- d) sensation de démangeaison et désir de frotter la région affectée,
- e) douleur (due à l'irritation pulpaire),
- f) douleur dans la région de l'articulation temporo-mandibulaire,
- g) douleur dans les muscles de mastication,
- h) craquement dans l'articulation temporo-mandibulaire.

Enfin l'examen du patient fait ressortir davantage l'influence des altérations anatomiques comme:

- a) alignement et nombre de dents,
- b) dents manquantes,
- c) migration des dents,
- d) mobilité des dents,
- e) relations occlusales (contacts prématurés),
- f) facettes,
- g) rapport, couronne et racine des dents,
- h) largeur bucco-linguale des dents,
- i) rétention alimentaire à cause de cuspes trop élevés,
- j) la poussée du bord incisif sur la gencive,
- k) suroclusion antérieure excessive.

La formation de clapiers dans le cas d'occlusion traumatique est encore un

sujet à discuter. D'après certains auteurs (comme Orban), l'occlusion traumatique et la formation de poches sont des processus bien distincts. D'après d'autres (comme Box) ces deux processus vont de pair.

3.-Aspect radiologique

Le tableau radiologique observé dans un cas d'occlusion traumatique est le suivant:

- a) élargissement de l'espace périodentaire
- b) épaissement de la lamina dura
- c) raréfaction osseuse
- d) condensation osseuse
- e) hypercementose
- f) résorption radiculaire

On voit clairement que toutes ces données cliniques et radiologiques coïncident bien avec les données microscopiques. Ce sont d'ailleurs les différents aspects d'un même processus qui est l'OCCLUSION TRAUMATIQUE.

C) TRAITEMENT

Puisque l'occlusion traumatique est le résultat de forces qui excèdent les limites physiologiques de tolérance, son traitement doit donc consister dans la réduction de ces forces de façon à les faire rentrer dans les limites de tolérance. En d'autres mots, nous devons diminuer les surcharges par une répartition plus équilibrée.

Cet équilibre occluso-articulé dans les dentures atteintes de paradentose s'obtient dans le sens suivant:⁶⁷

- a) en conservant la hauteur de l'articulé actuel;
 - 1) les dents égressées pourront être diminuées par le meulage des cuspes et des bords incisifs.
 - 2) les dents ingressées pourront être surélevées, pour un articulé plus favorable.
- b) en abaissant l'articulé par un meulage sélectif plus poussé.
- c) si l'on veut transformer la position de l'occlusion centrique ou surélever l'articulé, on peut employer soit le meulage sélectif, soit la prothèse, créant ainsi de nouvelles surfaces masticatoires.

d) si le meulage sélectif reste insuffisant, on pourra employer les méthodes orthodontiques.

e) enfin s'il existe des poches, on aura recours au traitement chirurgical.

Les chapitres précédents traitent de l'influence des changements anatomiques au niveau des tissus péri-dentaires, des dents et de l'occlusion.

Pour appuyer ces notions, voici trois cas concrets qui illustrent en pratique ce qui a été démontré en théorie.

Ce sont:

1e Cas: **OPENBITE**—Pour démontrer le rôle de la langue, des muscles masticateurs et aussi de l'occlusion sur les tissus péri-dentaires.

2e Cas: **MALALIGNEMENT DES DENTS**

—Pour démontrer l'influence de la largeur normale des maxillaires, du support osseux, des points de contact sur l'occlusion traumatique.

3e Cas: **OVERBITE**—Pour démontrer le rôle des rétentions alimentaires et de l'occlusion traumatique.

4e Cas: **OCCLUSION TRAUMATIQUE**

—Pour démontrer l'influence des dents manquantes, des diastèmes, des égressions dentaires dans la production de l'occlusion traumatique et par la suite des maladies de la membrane péri-dentaire.

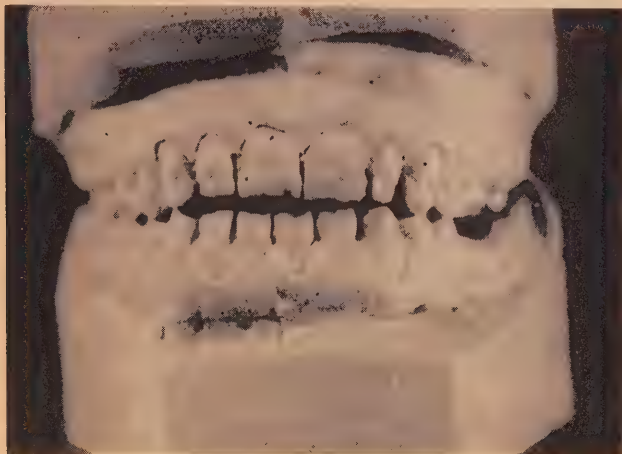


Fig. 1

1er Cas

Openbite et hypoplasie: Mme M.M. âge 29.

Causes: Rachitisme et dimension de la langue.

Symptômes péri-dentaires; Elargissement de la membrane péri-dentaire (Radio). Formation de poches au niveau des incisives par manque de fonction et début de gingivite.

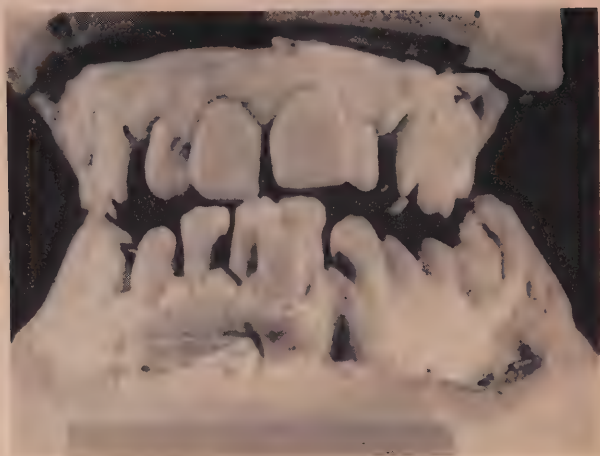


Fig. 2

2e Cas

Malalignement et chevauchement des dents. Mr. J. W. âge 21.

Cause: Maxillaire trop étroit au niveau des prémolaires.

Symptômes périodentaires; Septum osseux trop étroit entre les incisives (Radio). Ebranlement des dents par suite d'occlusion traumatique et manque de support.

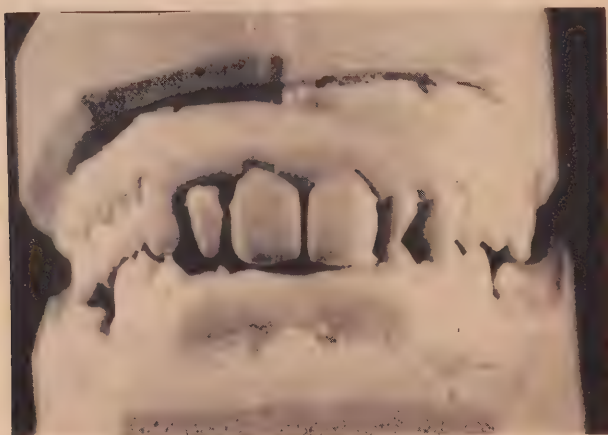


Fig. 3



Fig. 4

3e Cas

Overbite (suroclusion excessive), Mme. T.B. âge 38.

Conséquence: OCCLUSION TRAUMATIQUE.

Symptômes périodentaires; Déchaussement et mobilité des six antérieures du bas et présence de sacs plus ou moins profonds jusque dans la région des prémolaires.

Aspect radiologique: Voir Fig. 7.



Fig. 5

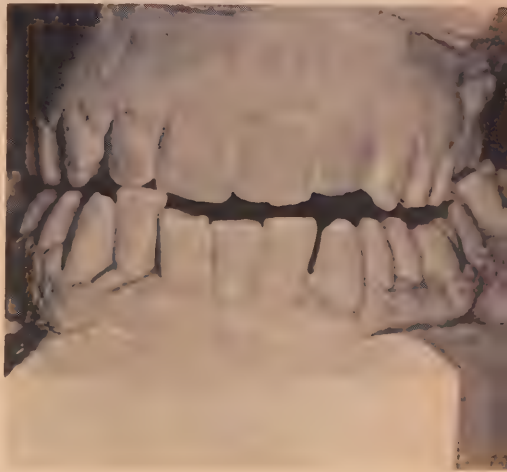


Fig. 6

4e Cas

Périodontoclasie avancée causée par une occlusion traumatique

Mme E.D. âge 43.

- Examen clinique:
- 1—Dents manquantes et non remplacées
 - 2—Diastèmes (manque de points de contact)
 - 3—Egressions des antérieures
 - 4—Perte des mouvements de glissement

Examen
radiologique: 1—Résorption horizontale et verticale du septum osseux
2—Elargissement de l'espace périodentaire
3—Epaississement de la lamina dura
4—Raréfaction osseuse
(Voir Fig. 8)

Symptômes
périodentaires: 1—Sacs périodentaires profonds surtout au max. inf.
2—Présence de tartre
3—Ebranlement des dents

Traitement: 1—Détartrage
2—Extraction de la 8
3—Correction de l'occlusion par meulage
4—Gingivectomie après une période d'observation

Résultats: Après un an, à l'examen clinique et radiologique, les tissus périodentaires ont montré une amélioration et même une guérison remarquables.

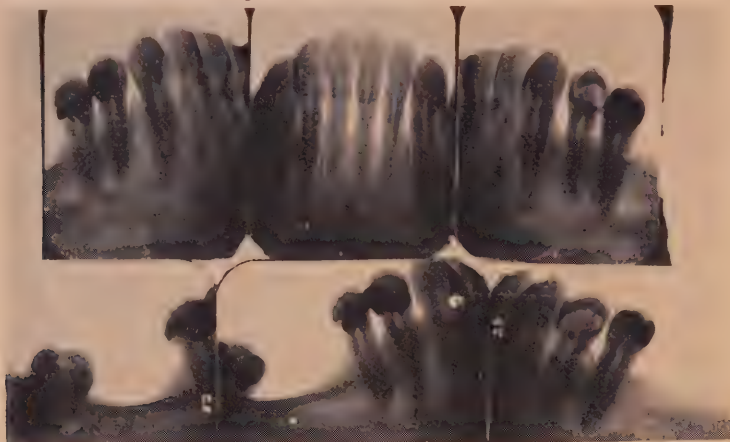


Fig. 7



Fig. 8

Dans les séries de films (maxillaire inférieure) ci-dessus, on remarque la raréfaction osseuse, l'élargissement de l'espace périodentaire, l'épaississement de la lamina dura et, par endroit, l'hypercémentose, causée par l'occlusion traumatique.

CONCLUSIONS

Cet exposé avait eu pour but de démontrer d'abord, l'importance de l'anatomie normale des dents, de l'os alvéolaire, des muscles, des gencives et ensuite leur rapport intime avec l'occlusion traumatique dans l'apparition des maladies de la membrane périodentaire. Il est logique d'affirmer qu'une occlusion traumatique résulte de la déviation de l'anatomie idéale des tissus énumérés ci-haut.

En conséquence, dans la grande liste des causes des maladies de la membrane périodentaire, il est juste d'accorder une attention particulière à l'anatomie, tout en respectant le rôle essentiel des autres facteurs locaux et constitutionnels; car, dans la plupart des cas, la maladie est le résultat de plusieurs facteurs.

Il est donc nécessaire de donner aux méthodes prophylactiques toute l'importance qu'elles méritent pour conserver une saine anatomie des dents, des tissus périodentaires et de l'occlusion et prévenir ainsi la plupart des maladies périodentaires.

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Nouvelles de l'Association

Concours du Mémorial de Guerre

Les noms des gagnants du Concours annuel du Mémorial de Guerre viennent d'être connus. Il s'agit de Mm.

A. Demerdjian—Université de Montréal—1er prix (\$100.00).

M. A. Listgarden—Université de Toronto—2e prix (\$75.00).

Le sujet du travail était: "L'influence des structures anatomiques sur l'apparition des maladies péri-dentaires." Ce concours est proposé, chaque année, aux finissants des facultés dentaires canadiennes. C'est grâce à un fonds amassé par les dentistes du Canada en mémoire de leurs confrères qui ont perdu la vie en servant leur pays au cours des guerres que ces prix peuvent être donnés. Le fonds et le concours sont sous la juridiction du Comité du Concours du Mémorial de Guerre de l'Association dentaire canadienne, présidé par le docteur Louis Lepine, de Montréal.

Notes au sujet de la réunion du Comité d'Étude sur l'Assurance-Santé

Le comité s'est réuni récemment au secrétariat de l'A.D.C., à Toronto, et voici les faits saillants de cette réunion.

—Le Canadian Dental Service Plans Inc. (D.S.P.I.) a reçu sa charte fédérale et commencé ses activités le 1er janvier 1959. Son bureau est installé à 230 rue St-George, Toronto, dans l'édifice du Collège Royal des Chirurgiens-Dentistes de l'Ontario. Les provinces d'Alberta, de Saskatchewan et d'Ontario ont des plans de paiement en fonctionnement sous les auspices du D.S.P.I. et la Nouvelle-Ecosse a commencé ce service le 1er juillet.

—La Colombie britannique rapporte progrès dans l'étude d'un plan de pré-paiement pour les traitements dentaires.

—Le comité a rencontré des représentants de syndicats ouvriers pour connaître leurs sentiments au sujet de l'assurance-santé en général et au sujet des plans de paiements pré-payés.

—Le comité a formé un sous-comité pour étudier tous les aspects d'un plan, pour prodiguer des soins à des groupes donnés, tels que syndicats, etc. Ce sous-comité préparera un plan détaillé qui pourra servir de modèle à un plan du genre de pré-paiements.

—On a décidé de procéder à la compilation

du Relevé de l'Exercice dentaire de 1959. (La tabulation des chiffres est commencée.)

—Le comité s'est encore prononcé en faveur de l'embauchage au secrétariat de personnes qualifiées dans le domaine des statistiques.

—Le président du Comité des Services dentaires hospitaliers a recommandé que les provinces essaient de faire amender les lois hospitalières de façon à légaliser le statut de la dentisterie dans les hôpitaux.

La population âgée des Etats-Unis, dans une proportion de 70%, portes des prothèses dentaires

Le National Opinion Research Center de l'Université de Chicago, en collaboration avec la Health Information Foundation de New-York, est à faire une enquête d'échantillonnage aux Etats-Unis chez les personnes âgées de ce pays (65 ans et plus). On a interviewé longuement ces personnes au sujet de leurs habitudes de vie, leur santé, leurs revenus et d'autres questions. On a commencé d'en publier les résultats.

"Presque toutes les personnes interviewées, 96% utilisent des appareils ou certains accessoires sanitaires (lunettes, prothèses dentaires et autres) et la majorité en ont besoin de deux."

"Les accessoires les plus nombreux sont les lunettes (90% des vieillards); ensuite, les prothèses dentaires, ponts ou dentiers partiels (70%). Plus rares sont les cannes ou les béquilles (8%); les chaussures spéciales, les bandes et les appareils acoustiques se rencontrent chez 4 à 5% de ces personnes."

Les problèmes soulevés par la santé des vieillards prennent de plus en plus d'importance parce que cette portion de la population forme un contingent substantiel et augmente constamment en nombre. Cette enquête a justifié cette observation au sujet du financement des services de santé pour ces gens âgés.

"La question financière ne paraît pas être un obstacle majeur à ce retard à se faire traiter. La plupart des personnes de 65 ans et plus sont à leur retraite et leurs revenus sont bas en comparaison de ceux qui sont encore en activité. Pourtant, seulement trois personnes sur cent ont déclaré qu'elles ne se faisaient pas soigner parce qu'elles n'en avaient pas les moyens.

Nouvelles du Corps Dentaire

Le colonel Harris visite l'école du Corps dentaire

Le colonel H. L. Harris, de la Direction des services dentaires, à Ottawa, a passé quatre jours à l'Ecole du Corps dentaire, au Camp Borden (Ontario), vers la fin de juin.

Au cours de sa visite, le colonel Harris a représenté le Directeur général des services dentaires à l'ouverture du cours donné à la Milice du Corps dentaire sur la conduite des opérations de secours en cas de pertes en masse.

Lors d'une cérémonie qui s'est déroulée à l'Ecole du Corps dentaire, le colonel Harris a également remis des brevets de capitaine à cinq nouveaux dentistes militaires, qui venaient de terminer leur instruction spéciale.

Nouveaux officiers du Corps dentaire

Après avoir reçu leur diplôme, treize nouveaux dentistes ont été nommés à la Réserve du Corps dentaire. Ce sont:

Le capitaine J. F. Bégin, D.D.S., B.A., de Moncton (N.-B.). Diplômé de l'Université de Montréal et affecté à la Compagnie dentaire No 15, Région militaire du Québec, Montréal.

Le capitaine R. D. H. Bunt, D.D.S., B.Sc., de Saint-Jean (Terre-Neuve). Diplômé de l'Université McGill et affecté à la Compagnie dentaire No 15, Région militaire du Québec, Montréal.

Le capitaine J. S. E. Doiron, D.D.S., B.A., de Rustico (I. du P.-E.). Diplômé de l'Université de Montréal et affecté à la Compagnie dentaire No 13, Région militaire du Centre.

Le capitaine R. J. Gillis, D.D.S., de Campbellton (N.-B.). Diplômé de l'Université Dalhousie et affecté à la Compagnie dentaire No 14, Région militaire des Prairies, Winnipeg.

Le capitaine R. J. Lewis, D.D.S., B.Sc., d'Annapolis Royal (N.-E.). Diplômé de l'Université Dalhousie et affecté à la Compagnie dentaire No 12, Région militaire de l'Est, en vue de servir au "Cornwallis", Cornwallis (N.-E.).

Le capitaine F. W. Lovely, D.D.S., de Florenceville (N.-B.). Diplômé de l'Université Dalhousie et affecté à la Compagnie dentaire No 12, Région militaire de l'Est, Halifax (N.-E.).

Le capitaine J. J. Mitchinson, D.D.S., de Niagara Falls (Ont.). Diplômé de l'Université de Toronto et affecté à la Station de l'Aviation royale du Canada, à Trenton (Ont.).

Le capitaine J. R. Myles, D.D.S., d'Ottawa (Ont.). Diplômé de l'Université de Toronto et affecté à la Station de l'Aviation royale du Canada, Downsview (Ont.).

Le capitaine J. C. R. R. Roy, D.D.S., B.A., de la ville de Québec. Diplômé de l'Université de Montréal et affecté à la Compagnie dentaire No 15, Région militaire du Québec, Montréal.

Le capitaine J. R. Sénéchal, D.D.S., B.A., de Mont-Joli (Qué.). Diplômé de l'Université de Montréal et affecté à la Compagnie dentaire No 15, Région militaire du Québec, Montréal.

Le capitaine C. G. Travis, D.D.S., B.Sc., d'Halifax (N.-E.). Diplômé de l'Université Dalhousie et affecté à la Compagnie dentaire No 13, Région militaire du Centre.

Le capitaine D. A. Warrick, D.D.S., de Windsor (Ont.). Diplômé de l'Université de Toronto et affecté à la Station de l'Aviation royale du Canada, Clinton (Ont.).

Le capitaine J. B. Wilcock, D.D.S., B.Sc., de Craven (Angleterre) et Sherbrooke (Qué.). Diplômé de l'Université McGill et affecté à la Compagnie dentaire No 11, Région militaire de l'Ouest, Edmonton (Alta.).

Affectations outre-mer

Les dentistes militaires suivants ont été envoyés en Europe, pour y accomplir une période de service dans les unités indiquées ci-après:

La major E. M. C. Franklin, de Digby (N.-E.), qui passe du "Stadacona", Halifax (N.-E.) à l'Unité dentaire de campagne No. 35, à Metz, en France, à compter de juillet 1959.

Le capitaine G. T. Crossman, de Sackville (N.-B.), qui passe de Fort Churchill (Man.) à la Compagnie dentaire de campagne No 4, en Allemagne, à compter de juin 1959.

Le major Cobb revient d'outre-mer

Le major T. D. Cobb est rentré au Canada après avoir terminé une période de service dans la Compagnie dentaire de campagne No 4, en Allemagne. Il a été affecté à la Compagnie dentaire No 11, Région militaire de l'Ouest, à compter de juillet 1959.

Affectations au Canada

Les dentistes militaires suivants ont reçu récemment leurs affectations pour divers endroits du Canada:

Le major J. C. Brick, de Windsor (Ont.), qui passe du Camp Petawawa (Ont.) à la Direction des services dentaires, à Ottawa, à compter du 1^{er} août.

Le major R. A. Fell, de Winnipeg (Man.), qui passe de la Station de l'Aviation royale du Canada, à Chatham (N.-B.), à la Compagnie dentaire No 11, Région militaire de l'Ouest, à compter du 1^{er} juillet.

Le major J. J. Walker, de Toronto, qui passe de la Station de l'Aviation royale du Canada, à MacDonald (Man.), à la Station de l'Aviation, à Cold Lake (Alta.), à compter du 1^{er} juin.

Le major J. M. A. Donely, de Listowel (Ont.), qui passe de la Station de l'Aviation, à Goose Bay, Labrador, à la Clinique dentaire du Quartier général de l'Aviation, à Ottawa, à compter du 1^{er} juillet.

Le major J. M. Smith, de Vancouver (C.-B.), qui passe du "Cornwallis", à Cornwallis (N.-E.), à la Station de l'Aviation, à Goose Bay, Labrador, à compter du 1^{er} juillet.

Le major J. E. Hughson, de Galt (Ont.), qui passe de la Station de l'Aviation, à Clinton (Ont.), à l'Ecole du Corps dentaire, à Camp Borden (Ont.), à compter du 1^{er} juillet.

Le capitaine V. A. Low, de Carmanagay (Alta.), qui passe de la Station de l'Aviation, à Namao, Edmonton (Alta.) à la Station de l'Aviation, à Goose Bay, Labrador, à compter du 1^{er} juin.

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"Dentistry During the Next Ten Years"

Panel Discussion*

*Moderator: Don W. Gullett, D.D.S., Toronto
Secretary, Canadian Dental Association*

Panelists: Dean J. D. McLean, Dalhousie University.

Dr. P. G. Anderson, University of Toronto, Faculty of Dentistry.

Dr. K. J. Paynter, Div. of Dental Research, University of Toronto.

*Dr. H. K. Brown, Dental Consultant of Dental Health Division,
Dept. of National Health & Welfare, Ottawa.*

MODERATOR'S INTRODUCTION

The task of the prognosticator is always difficult. If his prediction comes to pass all say they saw it coming. But if his prediction fails to come true he is said to be foolish. Seldom can he win acclaim.

On the whole the future of dentistry is bright. More interest in dental services is indicated today than at any previous period. It is true that this same interest is causing new problems to arise for the profession to solve. However we must not allow these problems to becloud the progress which is evident.

Four speakers will make presentations in the fields of Research, Dental Health, Health Insurance and Education.

*Panel discussion presented at the Annual Convention of the Canadian Dental Association and the Nova Scotia Dental Association June 21-24, 1959.

Dental Education in the Next Ten Years .

DEAN J. D. McLEAN, *Halifax, N.S.*

In contemplating the possible future of dental education in such an extremely limited time, it was decided to explore the answers to three questions:

- (1) What will determine the future of dental education?
- (2) What will be required of dental education, and
- (3) What will be the requirements for dental education?

WHAT DETERMINES THE FUTURE

Most things that happen either in or to the broad field of dentistry can affect the pattern of dental education. So that professional requirements may be met as rapidly as possible, the schools must be ready to assess the importance of influences arising from the profession or from the public.

The preceding three speakers have indicated some of the possible trends in Research, Dental Practice, and Health Insurance, and each one of these is likely to have a profound effect on the pattern of professional training.

The extent of the demand for personnel to meet the requirements of Dental Research, Teaching, Public Health, General or Specialty Practice and Auxiliary Personnel will continue to affect strongly the kind of programme which the schools undertake.

The one overriding factor is the attitude and support which the profession, and particularly its individual members, give to the dental schools — directly, and, more especially, through their influence on the lay public. Professional and public relations, if you prefer these terms, will govern the support which the schools require to carry out their duties.

WHAT, THEN, WILL BE REQUIRED FROM DENTAL EDUCATION?

It is hoped that the results of the increasing dental research activity will have a most profoundly favourable impact. It is well nigh impossible to project the changes which will result from discoveries in the next few days, and, therefore, it is imperative that graduates must be prepared with as broad a knowledge and understanding of the functions of the body in health and in disease, as is consistent with the present necessity for reasonably well-trained diagnosticians and technicians. Only with basic knowledge and well-trained minds will the graduates be sufficiently objective, ready, and capable of adapting themselves to the possible changes in dental activity resulting from research findings.

It will be necessary, too, for the universities to provide an atmosphere for

greatly increased research activity, to encourage such activity, and to direct the interest of more dental and other scientific personnel into research careers.

It should be appreciated that the present programs in the dental school cannot be designed to meet the foregoing requirements and at the same time produce, at the time of graduation, a highly skilled dental practitioner. Having been given little more than the minimum essentials to enable him to practise upon the public with safety, it is expected that the graduate will continue to learn by experience through practise and further study.

There are those who would recommend at least one additional pre-dental year, and preferably a bachelor's degree, before permitting students to enter a Faculty of Dentistry. There is also a small group of individuals who would wish to see the undergraduate program increased in length. While it is highly desirable for students to obtain as much general education as possible before entering the dental schools, I believe that any extension of the minimum two-year pre-dental requirement should remain on a voluntary basis. Any compulsory addition to the length of the course could be used more profitably in an additional year within a Faculty of Dentistry, but, at the moment, I find it difficult to justify the additional time and cost to the student and to the public.

Recognizing, then, the limitations in the undergraduate program, and the probability of changes within dental practise, there must be more opportunity for practitioners to return to the universities to keep abreast of developments and to be given direction in adapting themselves to specific changes. This, together with the increasing demand for specialty services, will necessitate a greater number and frequency of programs in both the post-graduate and graduate areas.

Finally, and probably the most important requirement from dental education is an adequate supply of dental personnel.

The very significant difference between the need and the demand for services is well recognized. At present, there is a very wide gap between the two, but, with an increasing interest in health insurance, whether government or privately sponsored, the demand is likely to continue to increase at a fairly rapid rate, thereby creating rather severe pressures.

Having some slight knowledge of the problems involved in obtaining additional facilities for dental education across Canada, to say nothing of the problem of securing competent staff for such institutions and students to fill the classes, by the wildest flights of imagination I cannot foresee within the next ten years sufficient accommodation to permit a supply of dentists which could keep pace with the demand for dental services. With all the expansion and improvements in the physical facilities of the dental schools of Canada within the past ten to fifteen years, we still shall be unable to maintain the ratio of dentists to population which obtained 25 years ago. Taken in the light of governmental pressures which have taken place in some parts of Canada within the past year, this is a very sobering situation. I am convinced that each one of us will have to take a serious and more realistic attitude toward the provision of dental services for a much broader section of the public; the traditional approach to the problem has not been too successful!

WHAT WILL BE REQUIRED FOR DENTAL EDUCATION?

Let us look now at what dental education will require if it is to do what is expected of it within the next ten years.

It would appear that the most pressing requirement from dental education is for additional personnel, and if the means can be found to fill this requirement, the schools should be in a position to carry out their other objectives without much outside assistance.

The first requirement for more ade-

quate provision of personnel is additional facilities for the education and training of dental students and auxiliary personnel. Despite the activities of the profession to date, our endeavours have not produced spectacular results, for the ratio of dentists to population has and will continue to decline. It is not enough that the C.D.A. and/or professional organizations should make representation to appropriate bodies in this regard. I would suggest that a national study of the need should be made, in cooperation with the provincial legal bodies, and that an attempt be made to indicate the areas in which, firstly, there is the greatest need for schools, and, secondly, there is an availability within specific areas of appropriate centers for such schools. It is my impression that until now the C.D.A. has looked at the national picture and expressed great concern about the inadequate ratio of dentists to population, and it has encouraged existing institutions to expand their facilities. At the same time, certain provincial organizations have been more interested and active than others, not necessarily because the need was any greater in their area, but because they were more conscious of their responsibility. Certainly there has been some improvement, in the provision of more adequate teaching facilities, in recent years, but not nearly enough!

Having determined through the proposed cooperative study what ought to be done, there should then be a concerted program of activities designed to stimulate every member of the profession to create interest and support by individuals and organizations outside the profession, so that the demand for expanded facilities will be brought to the attention of the universities and governments from as many sources as possible. I am satisfied that the necessary support will be forthcoming if we can really justify to the public the urgency of the need.

The second requirement for the establishment of additional personnel is a supply of suitable students. Once again, individual members of the profession must

assume a much greater responsibility in the matter of student recruitment. Far too often, members of the profession are inclined to look only at the disadvantages of their professional life, comparing these with the advantages to be found elsewhere. I think that there may not be the opportunities for outstanding rewards to a select number as may be found in other professions, but, at the same time, we would find fewer in our profession, at the bottom of the scale. By and large, ours is as rewarding as other professions.

There is, too, a shortage of well-qualified staff for the dental schools, but the situation is improving, and perhaps in relation to the over-all shortage of dentists in the country, the schools are not faring too badly.

Finally, and it may surprise you to find that I, as Dean, should consider this the least pressing difficulty, although none-the-less an exceedingly important requirement, there is the matter of financial assistance for the institutions. Of course, our educational establishments require financial assistance, and much more generous than they have received to date, but this, too, will be forthcoming if we are really convincing in our presentation. As proof of this, one need only give cursory examination to the support of voluntary charitable agencies. There, in some instances, the support bears a closer relationship to the presentation and dramatization of the need than to the urgency of the requirement.

In essence, then, what is to happen in dental education during the next 10 years will depend to a very large degree upon the interest, activity and direction of the individual members and organizations of dentistry, and the schools must prepare graduates capable of adapting themselves to social pressures and the results of research findings. The schools may offer some leadership and direction, but their efforts will be relatively futile, unless well-supported by the individuals who are the profession of dentistry in Canada.

Dalhousie University

Dentistry During the Next Ten Years —

Health Insurance

P. G. ANDERSON, D.D.S., Toronto, Ontario.

In order to make any predictions as to what may transpire in Health Insurance in the next 10 years, it is obviously necessary to make a few comments on what the trends have been in the past, that will justify this prediction.

May I confine my remarks to three main points:—

- (1) What is Health Insurance?
- (2) Its pattern of development in Canada.
- (3) Where does dentistry stand in the next ten years?

Firstly—What is this thing called Health Insurance? It is just simply a social security measure, just like all the others such as unemployment insurance, old age pensions, mother's allowances, baby bonus, and others. Only this one touches pretty close to home and we as dentists are intimately involved.

A trend exists today which is world wide. This universal trend is distinguished by the existence of many kinds of legislation which when grouped together are known as social security measures. Now, the philosophy behind these actions is that more things can be done collectively better than individually for the most good for the greatest number. The nature of this progress is that first one group and then another is drawn into collective action until finally — from a legislative point of view — it arrives at an over-all health coverage — known as health insurance. This pattern is not peculiar to us, it is on a world-wide basis.

Education had in its beginning — you

will recall — a pattern where those who could afford to pay sent a child in the family to a teacher. This pattern enlarged, to several grouping together to pay a teacher to teach several children, and so on. Today education is a part of the life of the child and the young man. The legislation that brought all this about is not at all unlike the legislation that is bringing health coverage into being. No one would deny that health like education is just as important to one individual as to another. But just as in education, people in general are going to have to pay more money to provide health benefits.

Who objects to receiving a cheque regularly from the government and who would object to being told to take any necessary health precaution and it will be paid for? People jokingly remark that they hope the old age pension doubles or triples by the time they reach the age limit. These things are all popular with the people, and politicians use it to its limits without too dangerously upsetting the tax balance. People some way or another have the illusion that governments can furnish and should furnish the essentials free. The unfortunate part of all this is the more so-called free essentials provided the less money left to the individual because of taxation.

In Canada, public opinion polls on the question of health insurance have shown the majority in favour of such a move. Practically everyone seems to be willing to have the government pick up the bill while at the same time not thinking too

keenly on the fact that the money the government spends is his own.

The second point — Its pattern of development in Canada.

It all began in Canada following the First World War. — The Second World War and the recovery years rapidly accentuated the trend. Now leaving out all smaller issues leading up to legislation just follow the continuity of these overall expanding health coverage statistics—

1927—Old Age Pensions Act—\$20 per month with means test. In 1937, 1943, 1947, 1949, the Act amended to increase amounts up to \$40 per month.

1940 — The Unemployment Insurance Act.

1944—The Family Allowance Act — allowances for children under 16.

1948—The National Health Programme. This provided health grants for health surveys, public health, disease control, public health research and many others.

1951—The alterations to the Old Age Pensions Act (1927). Here the means test was markedly curtailed.

1953—The National Health Programme broadened to provide Laboratory and Radiological Service, Medical Rehabilitation, Child and Maternal Health.

1954—Disabled Persons Act.

1957—Hospital Insurance and Diagnostic Services Act—assistance to provinces operating hospital care programmes.

1957—Old Age Security Act amended twice to \$55 per month.

1958 - 1959 — Provincial Participation for National Hospital Insurance.

Seven provinces now participating.

And so on:—Now there you have it! Surely it is obvious what the pattern is here in Canada.

All of these measures have been very popular and you will find practically no one who would wish to have them removed. On the contrary they would have them augmented. Bruce Hutchison, in *The Financial Post* of February 23rd, 1958, stated (I quote),

"To understand what is happening in Ottawa, in February, 1957, it is necessary to go back to September, 1943, when the government of W. L. Mackenzie King was at the nadir of its fortunes and clearly facing defeat in the next election. To meet that danger, Mr. King invented, or at least blue-printed for the first time, his version of the thing we nowadays call the welfare state. His blue-print of a brave new world included many things like full employment, universal old age pensions, children's allowances, floor prices for farmers and housing schemes which were introduced a few years later and are now commonplace. The blue-print also included national health insurance but after nearly fourteen years that final pillar of the welfare state is still missing. Evidently it will soon be installed." (End of quote).

Here we have a brief digest of the original plan. In the meantime, however, as has been pointed out earlier, first one service is introduced and when that is working well then another is introduced. These actions have taken place right on time, and in accordance with the original plan. The next stated service planned to be included is medical services, and this to be followed by dental services.

Now the third point — Where does Dentistry stand in the next ten years?

Once instituted, changes of government make little or no difference in welfare planning. These things are popular and to retract would be dangerous politically. No government is anxious to set up a fully fledged health insurance programme. It costs a tremendous amount of money and taxes would go up terrifically, but when welfare demands become great enough—come it will.

Our Canadian Government health officials must be given real credit in that they have adopted a long term planning approach. We have not been faced with a sudden set up of health insurance as happened in England and other countries, but we have been urged to get all the statistical information we can get to as-

sist government officials in a fair appraisal of administrative and professional needs.

We stand in the position of giving health officials the answer they want if—

- (a) We can show them that we can administer our own plans and
- (b) that the service is satisfactory to purchaser or in other words — the public.

If we cannot do this we will take what we get, if, as, and when it comes. It is no longer the smart thing to do to refuse the approaches of groups requesting dental services. In the United States, there are over 100 prepaid dental care plans, most of these sponsored by unions — the Long Shoremens Union — the Iron Workers Union—the Teamsters Union, and so on.

But two things are essential before any arrangements with anyone can be negotiated. First, some form of satisfactory administration must exist. Second, both the purchaser and seller must know the price.

On this continent there are now over one-half million men, women and children covered by group dental care plans and these are increasing year by year. Now in reality these plans may be good, bad or indifferent. Collectively they may consti-

tute a new pattern of dental care of great promise—or they could represent a dangerous threat to dental progress. But, — what is important is what the individual dentist believes—and what he considers the advantages and disadvantages of the plans to be—what action he is willing to take, if any, to carry out his own convictions, and that of his society. This would fashion the future of his profession. It would form the character of his practice.

To look ahead then through the next decade—and providing there is no global upset—may I venture to predict, firstly,—that there will be a very great increase in the demand by groups and individuals for a greater measure of dental care; and secondly, — just as transpired in the measures that brought about the standards of education we enjoy in Canada today—the trend will be to set up more and more legislation that will provide a greater and greater health coverage to all levels of society. Let no one be deceived, dentistry will be included.

(Note: The author is grateful to Dr. D. W. Gullett, Secretary, Canadian Dental Association for allowing generous use of material previously presented.)

18 Old Yonge St.

Dentistry — Ten Years Ahead Research

K. J. PAYNTER, D.D.S., Toronto, Ontario

No one, not even one foolish enough to publicly try to predict what will be happening in dental research ten years from now, should begin without first limiting the concept of the word research. This is particularly true today, when according to the latest in television advertising, a “major research break-through” is an al-

most daily occurrence, particularly as these pertain to the more lucrative commercial items. It is most unfortunate that “major break-throughs” do not occur with equal rapidity and apparent ease in the field of biological research. If they did, most of our major diseases would have been conquered long ago.

The word research means "careful search or inquiry after, or for—". But before we can undertake a "search after or a search for—", i.e. before research can be done, we must first be willing to admit, at least to ourselves, that there is something to search for. This means we must be dissatisfied with what is known or what is being done at present. This does not imply that today's methods are not the best possible on the basis of present knowledge and experience, but it does mean that we have not deluded ourselves into thinking that they will always be the best, or that we know all there is to know.

We dentists still have the major responsibility for the prevention, control, and treatment of dental disease. We cannot long continue to satisfactorily discharge our obligations in this regard by standing still. We can do it only by continuing to advance our knowledge and methodology step by step, each new step first having carefully been prepared by sound research. This holds true whether the advances are to be made in the field of disease prevention or control, in practice methods, or in methods of dental education.

The discussion of these latter aspects of dentistry will be left to others, and I shall limit my further remarks to the area of biological research—the area with which I am more familiar.

The first and most obvious question that comes to my mind when discussing dental research and the future is this; "What will we have learned over the next ten years that we don't know now as a result of research?" No one really knows or is likely to know the answer — including those doing the research. Only too often the facts one learns as a result of an experiment in biology bear little resemblance to those one thought to find when the experiment was being designed. However, it is possible to tentatively make a few predictions and to answer some questions based on the probable results of work already underway.

Will dental caries be eliminated or completely controlled a decade from now?

I think that only the most avid optimist would dare say yes. Although we are responsible for the prevention and treatment of but a few of the diseases of man, those for which we are responsible are among the most complex, and dental caries is a classic example of the complexity. However, in the field of caries research, I believe we can expect the development of a much better method for diagnosing and predicting the potential caries susceptibility of a child than we have today. If work presently being done continues to confirm the present results, it appears that within a short time, by compiling and interpreting information received from a newly developed and more accurate caries-activity test, from tooth measurements, from the history of a child during dental development, from a diet study, etc., by properly assessing such information we shall be able to accurately predict the amount of dental decay a child is likely to experience under any given set of circumstances. Accurate knowledge of individual caries potentials will thus make possible a more rational application of caries control measures, the effects of which will also be more predictable than is possible today.

What advances will be made in the field of periodontal disease within the next ten years?

I believe we can expect considerable development during that time in our understanding of the basic processes involved in the disease. Only recently has an animal been discovered which spontaneously develops periodontal lesions comparable to those of humans. This animal, which is suitable for raising in a laboratory, is already being subjected to a barrage of tests and investigations in an effort to find how it differs from other laboratory animals which have an apparent immunity to the disease. Perhaps soon we shall know some of the answers to such problems as whether periodontal disease primarily is an infective process, whether it is one of the so-called "collagen" diseases such as affect other joints of the body, whether the lesion is primarily one of

dental, bony, or fibrous tissue, or a combination of faults in all three. These problems and many others have yet to be solved. Whether any or all of them will be answered within the next ten years, time alone will tell. Assuming that the quality and the quantity of the research presently going on in this field do not diminish, we shall certainly be much closer to the answers in 1969.

What more will we know of malocclusion, the third of the dental disease triad?

I believe we would be most egotistical to think that within the brief span of ten years we could bring under our control all of the complex factors which influence facial growth, including those we don't even know about today. Perhaps human control of even this much of human development might not be a good thing anyway. In any case, there is excellent reason to infer that because of some of the studies of child growth and development that are now going on (and one of the best is being conducted in Canada), we will know more about what does happen as a child grows. We will know better how to recognize the earliest signs of a developing malocclusion, and the better methods of diagnosis will enable earlier and simpler treatment, thus eliminating many of the more complicated disorders with which we are all familiar.

Next, to look at broader horizons for a moment—will dental research in the near future contribute anything to man's knowledge beyond a further understanding of dental disease processes?

It appears that it will, and two examples may be cited to illustrate. It is known of course, that hard tissue lesions in teeth, which are the result of a pathological developmental process, remain for the lifetime of the individual teeth. Corrections of developmental faults provide dental practitioners with some of the more exasperating problems which they have to face. But we have also learned recently that the permanency of dental tissues goes far beyond the 'gross lesion' level. It now appears that even the atoms which are incorporated into the molecules of

tooth structure at the time they are developing remain for the lifetime of the tooth. This is in marked contrast to almost all other body tissues. The use of teeth as a record of a circumscribed period of the history of an individual may soon prove to be of value in two areas outside dentistry. First, because certain general developmental abnormalities in children are often accompanied by developmental abnormalities of the primary teeth, and because we know fairly accurately when the dental lesion occurred, this may give a clue as to when the more general damage happened. Knowledge of when a lesion occurred is often helpful in determining what occurred, and this information is, of course, indispensable in planning treatment.

In addition to this, two or three studies have now been started to evaluate the use of human primary teeth as a record of radioactive fallout. Because the chemical composition of teeth evidently remains constant, and because we know the time over which each of the primary teeth develops, a calculation of the amount of radioactive material contained in them should indicate accurately the amount of radioactivity in the area in which a child lived over a specific period of time. This method for estimating the uptake of radioactive materials from fallout in man may well prove to be the most accurate yet developed.

So much for prognostication about what we may learn within the next decade as a result of research activities in dentistry; let me now discuss for a moment the research itself and those who do it.

How much more dental research will be done in 1969 than is being done in 1959, and how many more people will be doing it?

Again it is impossible to predict accurately, but if expansion in this area over the next ten years compares even remotely with that of the last decade, it will be very significant indeed. Ten years ago, the amount of research being done in dentistry in Canada was negligible, primarily because of the lack of personnel

trained in research methods. Improvement in the number of research personnel has been dramatic. Compare the fact that in 1949, only one or two people in Canadian dental schools were carrying on active research programs, with the fact that today, every dental school in the country, including the newest, have programs of dental research under way. And dental public health officials all across the country are using their facilities for research as well as for their other duties. The number of professional dental personnel engaged in research has increased in the last ten years by—to be very conservative—at least ten fold.

How did this expansion come about? I think primarily and simply because opportunities were created for dental graduates to obtain training in research methods. Furthermore, I think the Canadian Dental Association should allow itself a pat on the back for the part it has played in creating these opportunities through the C.D.A. Studentship plan. The amount of money allocated for studentships by the Association has almost quadrupled in the last ten years, and this year represented about 5% of the total budget of the organization. (I should comment that in spite of this, I do not think the pat on the back should be for generosity, but rather for the wisdom demonstrated by the members in making such a sound investment.)

In addition to the role played by the Canadian Dental Association in this development, important and generous contributions have been made by Foundations and by Governments. The amount allocated through the National Research Council to support dental research has more than doubled in the last decade. National Research Council funds are now available for Fellowships for dental graduates to enable them to acquire research training. Such Fellowships were unavailable ten years ago.

Will this expansion continue at the same rate for the next ten years, or when and where is it likely to stop? I suppose

one could roughly calculate the probable number of people who will be carrying on active dental research programs in Canada ten years hence. The normal number of staff forming a full complement for the schools could be estimated, and the amount of their time available for research activities is also calculable, as is that available to public health workers and practitioners. Probably a figure based on such rough calculations could define the limits of expected expansion. I don't believe that lack of money for research will be a serious limiting factor; it should not be in any case.

While I believe we can expect further expansion of dental research in Canada in the future, there is probably some sort of limit quantitatively to this expansion. However, there is no limit to quality. And as new research workers continue to gain in knowledge and experience, so also will the scope of their work.

The foundation of the future of dentistry depends on our research activities today and tomorrow. Whether the research is done in the fields of practice methods or techniques, of teaching methods, or of basic biological research, the principles are still the same. We first must admit we do not know everything, nor can we do everything; then we must intelligently and systematically experiment to find better methods, or more information. Finally, having found the better method, or the increased knowledge, we must put it to work for us and for the public.

How far will we have gone in the next ten years? Who can tell? There is no limit to how far we can go. How far we do go depends on how hard we are willing to work, how much we are willing to sacrifice, how much we are willing to spend. There is no doubt about one thing, however, — because there is research now being done in dentistry in Canada, we will be doing a better service for Canadians ten years from now than is possible today.

The Practice of Dentistry Ten Years Ahead — (1969) Socio-economic and Political Implications

H. K. BROWN, D.D.S., Ottawa, Ontario.

My job here today is not to gaze into a mythical crystal ball, or to go into a trance and invoke the intervention of the spirits to help me do some fancy guessing. I think that the Program Committee expects me to read some of the rather plain "handwriting on the wall". There is some there for us to see if we take the time to look and read. In fact, there is so much of it that even the wall is in danger of falling down.

We may differ slightly on the interpretation of what we read, but the important thing is that we read and discuss our interpretations and do so objectively, with a view to deciding how to meet our individual and collective professional responsibilities in the best possible ways.

There isn't time here to deal with both the scientific and the socio-economic implications. It would appear to be appropriate for me to consider the latter — or at least to emphasize them.

No one can foretell with certainty what the climate of dental practice in Canada will be ten years from now. Make no mistake about it—it will be the socio-economic and political climate which will determine the nature and relationship of dental practice ten, or any number of years from now.

Let us take a quick look at the road over which the dental profession of this continent has travelled since its inception. Let us pause and consider the mile-stones, the road signs, the people, the countryside, the social, economic and industrial changes which have occurred around us as we have moved along. Our profession

on this continent began back in the days of the simple rural economy when social and economic problems revolved around the individual. All goods and services were produced and distributed by individuals. To use a modern cliché, this was a "do-it-yourself" economy. Later came great industrial development with related financial, labor, management, community and various other types of special organization in which groups of people agreed to work together for the purpose of obtaining the advantages of a collective and integrated effort for the production or distribution of things and of services, or for the furtherance of some common social or economic interest.

The formation of one type of organization to serve collective purposes or to meet collective needs led to the creation of others. Group insurance schemes of one kind and another came into existence as people discovered that the costs of catastrophes to individuals could be shared among large numbers and easily borne and that often the group-purchase principle could be used to further reduce the cost. It was inevitable that as people came to appreciate the economic importance of health that they should think of using the insurance principle to spread and share the costs of illness and hospitalization. As public interest spread and became almost universal governments became interested.

It is but a short step from the application of the insurance principle to health risks to the group purchase of such health care as dental services, where the risk is well-nigh universal and the relative costs

to the individuals comparatively narrow.

Requests from labour unions, staff organizations and management groups have resulted in the establishment of non-profit dental service corporations through which group dental care contracts are negotiated and financial settlements made. In two instances in Canada, government agencies have purchased dental care for welfare recipients through such non-profit corporations.

This leads directly to my first prediction and thence to additional related ones:

Prediction No. 1

There will be a very great increase in the demand by groups for dental care, as well as by individuals. The group demand will give rise to the extensive use of the non-profit dental service corporation idea.

Prediction No. 2

Improved health education methods and their wider use will further stimulate the demand for dental care. Intensive research is presently going on in the field of public education.

Prediction No. 3

This increased demand will give rise to an acute realization that tooth decay, malocclusion and periodontal disease' cannot be controlled by treatment measures alone and will bring about a great expansion in related research with a view to developing more and better preventive measures, as well as broader use of existing ones.

Prediction No. 4

By 1969 water fluoridation will be much more widely in use and will further increase emphasis on the dental care of children. This will be only the beginning of the impact of fluoridation on dental practice. As time goes on and caries becomes controllable by fluoridation and other measures, greater emphasis will be placed upon the prevention and treatment of malocclusion and periodontal disease. This will mark the beginning of a new phase in the professional stature of dentistry.

Prediction No. 5

Increased pressure will be placed upon dental educational facilities to recruit and train dentists and auxiliary personnel and to adapt curricula to changing practice patterns.

Prediction No. 6

There are signs that marked changes will occur in the pattern of dental practice, involving the greatly expanded use of auxiliaries, changes in dental office equipment and architecture, the introduction of group practice along with the use of business principles and techniques which will free the dentist to perform exclusively professional functions. By 1969 more group dental practices will be in successful operation in which many dentists will be appearing as heads of dental teams consisting of dental-associates and of auxiliaries who will perform, under supervision, a very large number of functions presently performed by the dentist himself. There is now a developing trend toward this type of practice. This trend is hampered by a lack of specific information and the traditional reluctance of the dentist to forego the complete but expensive freedom of a solo practice for the demonstrated advantage of a group effort supported by an efficient and well trained auxiliary team.

"Coming events cast their shadows before". The Council on Dental Health of the A.D.A. already has under study the factors which they regard as affecting the development and operation of group practices. These include not only the physical equipment and arrangements of the dental office, but also the legal, business, and psychological factors involved in the team functions of dentists and auxiliaries working in close co-operation. Such a study project can be carried out only by calling on the services of architecture, law, industrial design, business administration, psychology and sociology. Dentistry, like all other activities related to modern society will increase in the complexity of its organization and its relationship along with the increasing complexity of its so-

cial and scientific environment. While the solo practice office will continue to be essential to many parts of our economy the more complex one will find a place in like parts of the economy.

Prediction No. 7

Institutional practice: Within ten years it is probable that most large hospitals will have a dental department, as will also all large institutions providing care for the chronically ill and the mentally ill. It is highly probable that outpatient departments of many hospitals will include dental service.

The demand for dental care under public assistance programs will increase.

The general health needs of the aged, the chronically ill and the home-bound will soon be a subject of study in Canada, as it now is in the U. S. Demands upon the dental profession will ensue.

Prediction No. 8

As one final generalized prediction; the professional life of the dentist will become complicated by the growth of inter-professional relationships and the need to collaborate with specialized agencies (private and government) concerned with dental care and its relationship to other health services. A consideration of these and the foregoing developments will

enter into the selection and training of dental personnel.

SUMMARY:

I have read and interpreted some of the impressions which I have received during the past thirty years as a rural dentist with a foot engine, as an urban one, a military dental officer and more recently, as a public health dentist. At no time in the course of that period has dentistry, as an autonomous profession, been faced with more challenges than confront it today. In making the foregoing predictions I have assumed that the profession will rise and meet those challenges; that it will adapt to its changing socio-economic environment. In order to do that, the profession's greatest immediate need is improved intra-professional as well as extra-professional communication and collaboration.

Our growing and changing individual and collective professional responsibilities will make necessary the use of techniques, skills and procedures hitherto regarded as having no significant bearing on our functions as a profession. Upon our ability to adapt to the changing climate around us will depend the future of the dental profession.

Dept. of National Health & Welfare.

MODERATOR'S SUMMARY

Dr. Paynter has emphasized the biological side of dental research. Referring to what is sometimes called the triad of dental diseases, he has said that almost enough is known to control caries, indicating that accurate prediction of caries susceptibility may become possible; that very hopeful work is in progress whereby

periodontal disease will be better understood; and that owing to the complex factors involved, malocclusion control is less hopeful in the immediate future.

One important factor in research is the time lag which exists in the application of the products of research to dental practice. This is most noticeable in the pre-

ventive field. The increase in the amount of dental research is notable, being tenfold in the last ten years. Opinion is expressed that the increase in the next ten years will depend more upon the availability of trained personnel than financial support. A different area of research is in the form of mechanical aids. "High-speed" of recent introduction is altering dental practice and some predict that the dental office will take on a very different appearance in the next few years.

Dr. Brown has pointed up current trends of socio-economic significance with their political implications. One thing is certain, dentistry cannot expect to build a wall around itself. Public interest in dental services has increased greatly during recent years and will continue to do so. The increased service demands over the next ten years will lead to: new arrangements for service, improved methods in dental public health education, a demand for intensified research, force fluoridation or alternatives, put pressure on education of dentists and dental auxiliaries, bring about group practice, increase institutional practice and force improved inter-professional relations.

Dr. Anderson has also stated current trends which have a definite pattern of development. In the next ten years the demands for health services will undoubtedly increase. The result will be more and more health legislation granting increased health coverage for the whole population. Dental services will be included in this movement. Administration of treatment services of the future is the most important point. At some stage a choice will be made for either the government to assume complete direction or for the profession to administer their own services. The profession is now operating

some plans. A great deal will depend upon the success of these experimental plans and the cooperation of dentists in true objectives of the plans is essential, if they are to succeed. Misuse of these treatment plans or resistance of dentists to such plans will be detrimental to progress.

In respect to the future of dental education, Dean McLean has discussed these points:

- (1) That the influence of the profession and the improvement of teaching personnel will largely determine the future of dental education.
- (2) That a broadened educational base will be required with more emphasis on trained minds which will raise a problem of present teaching in skills versus broadened education to produce trained minds. The limitations in undergraduate programs and probable changes in dental practice will demand increased graduate education.
- (3) That in order to meet the challenge of the future more teaching facilities will be necessary; further detailed study should be made respecting location and size of new dental schools; and acceptance of greater responsibility for recruitment by individual dentists is necessary.

All four speakers have placed emphasis on signs which are on the horizon which will force alterations in dental practice. They have also indicated that change will occur more rapidly in the immediate years ahead than has happened in the past. As members of the dental profession we should welcome the increasing interest in dental health with ardent effort toward solving the accompanying problems.

234 St. George St.

Early Second Permanent Molar Extractions in Orthodontics*

HOLLY HALDERSON, D.D.S.,** Toronto, Ontario

Insufficient basal bone and lack of dental arch length are the causes of some malocclusions. It is difficult, if not impossible to correct these malocclusions without the removal of some permanent teeth. The majority of orthodontists sacrifice from one to four first bicuspid in these extraction cases.

A small percentage of four first bicuspid extraction cases presents two serious problems: (a) When the treatment has been completed, the mouth has a flat or dished-in appearance. This is especially noticeable when the patient reaches maturity or when the active growth of the face and jaws is complete; (b) The second occasional but serious problem is to maintain the six anteriors in contact or to prevent small diastemas appearing between these teeth after treatment has been completed.

If our prognosis suggests that we might be confronted with either of these problems we certainly should consider the extraction of second bicuspids rather than first, and in many of these cases the extraction of second permanent molars completely eliminates these two problems.

The extraction of second permanent molars is a very desirable procedure in deep overbite cases because the invariable tendency of incisor overlap is thereby lessened. This, of course, presents an ob-

vious contrast to the opposite tendency when first bicuspid are removed. The advantage here is that any part of the extraction space can be used instead of closing it completely.¹

Common sense dictates that we would not extract second permanent molars if there were no third molars showing in the x-ray survey. The third molars must be adequate from the standpoint of size and shape. If the root growth of the third molars is almost or fully completed, a plan to extract the mandibular second molars should be approached with caution, because this late extraction often encourages a tendency towards a mesial-axial inclination, in other words, a tipping forward of the mandibular third molars. In addition, we must be prepared to upright them when they erupt. Late extraction of the maxillary second molars does not seem to have this tipping effect on the third molars. The reason for this is probably because they are usually found in a distal-axial inclination before the extraction of second molars.

We are often confronted with malocclusions which do not justify the extraction of all four second molars. An example of this is — ideal occlusion on one side with loss of arch length on the other. Another example is an ideal mandibular dental arch with loss of arch length in the maxilla. Possibly the extraction of only the maxillary second molars would be justified in this latter type of malocclusion.

Probably the ideal age to extract second

* Presented to the Academy of Dentistry, March 26, 1959.

** Associate Professor, Graduate Dept. of Orthodontics, University of Toronto.

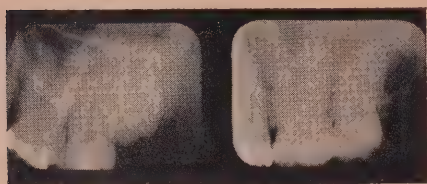


FIGURE 1

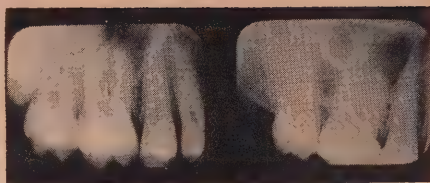


FIGURE 2

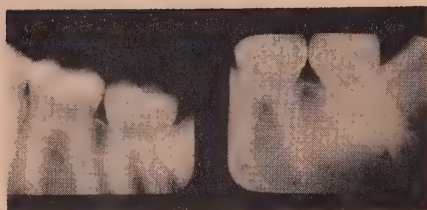


FIGURE 3

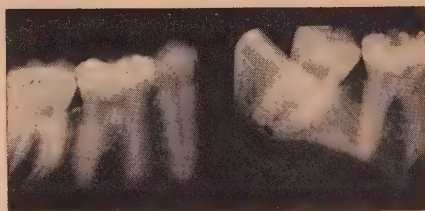


FIGURE 4

permanent molars is at a time when the x-ray survey shows little or no root development of the third molars. If the crown only of the third molar is fully formed in its crypt, the whole structure seems gradually to slide or move mesially with a minimum loss of its vertical axial position after we extract second molars.

(Figs. 1 & 2) This patient was 13½ years of age when the second molars were extracted. The root development on the third molars shows that the extraction was just a little late. However, the after films on the right side show a very acceptable axial position of the third molars up against the first molars. (Fig. 3) Note the length of the roots of the third molar on the right. They are almost as long as the

roots of the second molar. Although we haven't enough statistical data to suggest that early extraction of second permanent molars results in longer root growth of the third molars, nevertheless, it is reasonable to infer that such is the case. The films on the right side (Figs. 3 & 4), showing the third molars in position of the second molars, were taken 3½ years after the second molars were extracted.

The plaster casts of the same case (Figs. 5 & 6) show a distoclusion or Class II molar relationship. Also, some of the mandibular teeth on the left side are in lingual cross-bite to the maxillary teeth. The malocclusion was under active treatment for two years. However, the plaster casts (Figs. 7 & 8) were made 3½ years



FIGURE 5



FIGURE 6



FIGURE 7

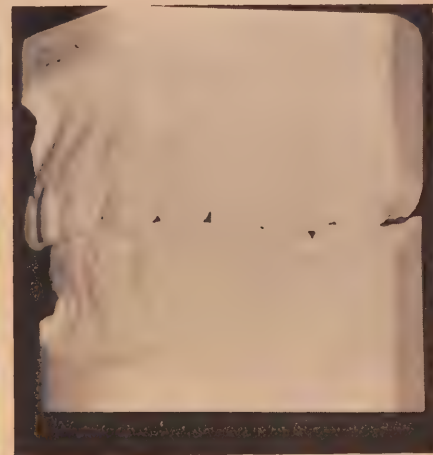


FIGURE 8

after the extraction and they show the third molars in occlusion. There were no bands or appliances used to move the

third molars up against the first molars. In fact, none of the cases in this study had any mechano-therapy on the third molars.



FIGURE 9



FIGURE 10

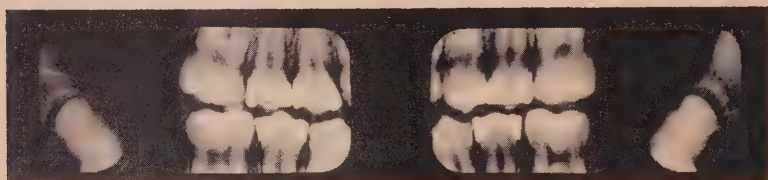


FIGURE 11



FIGURE 12



FIGURE 13



FIGURE 14



FIGURE 15



FIGURE 16



FIGURE 17



FIGURE 18



FIGURE 19

(Figs. 9 & 10) The age of this girl was 13 years, 3 months when the second molars were extracted. Possibly the physiological age of this patient was ideal because there was no root development of the third molars showing in the radiograms. The third molar crowns seem adequate from the standpoint of size and shape. Six months after the second molars were extracted (Fig. 11) we notice very little mesial drift of the third molars. However, 17 months after the extraction (Fig. 12), we notice an appreciable mesial positioning of the third molars. At this stage we might be concerned about the axial position of these teeth, but, 3 years after the extractions (Figs. 13 & 14) the axial and general position of the third molars is very acceptable. Figure 15 shows the position of the third molars 3 years after the extraction of the second molars. They probably will require another 6-12 months to erupt into good occlusion. When these x-rays were taken the girl's age was 16 years and 3 months.

(Figs. 16 & 17) This girl was 15 years of age when the second molars were extracted. From the root development of the third molars, we can readily see that the extraction was rather late. In consulting with both the patient's dentist and exodontist, we were all of the opinion that the third molars were or would become impacted. Hence, I decided to have the second molars extracted, since the loss of arch-length was very slight and I was fearful of flattening the mouth if bicuspid were removed. Fourteen months later

(Fig. 18) I was also rather concerned about the mesial tipping of the mandibular third molars, especially the one on the right side. But, after waiting another year and a half (or almost 3 years after the second molars were extracted) (Fig. 19), which also means that the patient was almost 18 years of age, I was pleasantly surprised to find all the third molars in good occlusion. Again, there was no orthodontic appliance used on these third molars. However, I often wonder if this extreme self-correction of the mesial tipping of the mandibular third molars would have taken place if the patient had been 18 or 19 years of age when the second molars were extracted.

(Fig. 20) This girl's age was 14 years 11 months when the four second molars

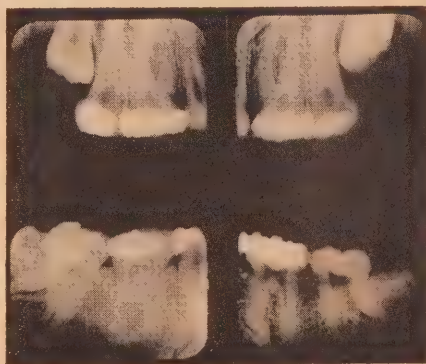


FIGURE 20

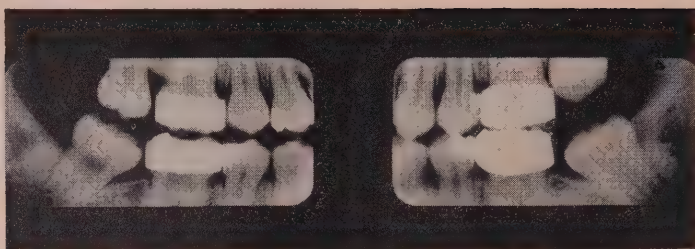


FIGURE 21

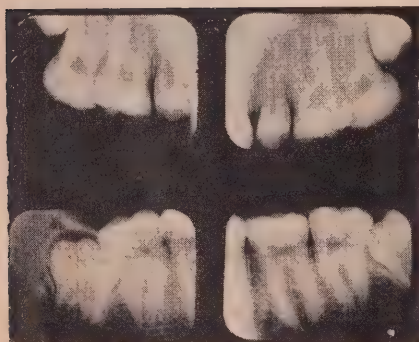


FIGURE 22

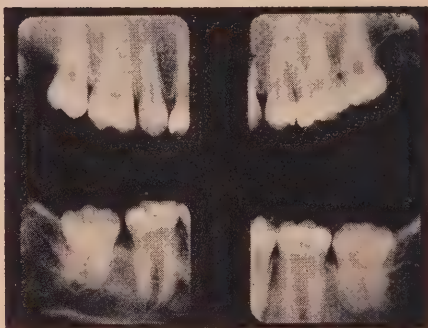


FIGURE 23

were extracted. There were two observations that helped us decide on second molar extractions rather than bicuspid extractions. The upper right second molar had a pulp exposure from a buccal cavity and the prognosis of the mandibular third molars was very doubtful, especially the one on the right side. One year later — almost to the day — I was amazed to find the third molars breaking through the gingival tissue on the left side (Fig. 21). In fact they have moved to the position of the second molars so quickly that I have not had enough time to move the maxil-

lary buccal segments all the way distally to a normal incline plane relationship. This was the earliest eruption of third molars in this study — 15 years, eleven months.

(Fig. 22) This girl's age was 18 years, 1 month when the four second molars were extracted — the oldest second molar extraction case in this study. As stated earlier, we are never concerned about the maxillary third molar eruptive pattern in these late extraction cases. But, we are always concerned about the mandibular third molars because they invariably have

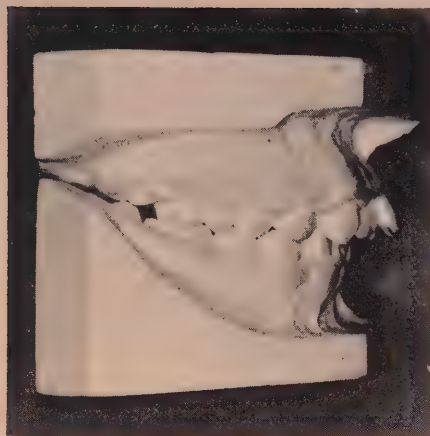


FIGURE 24

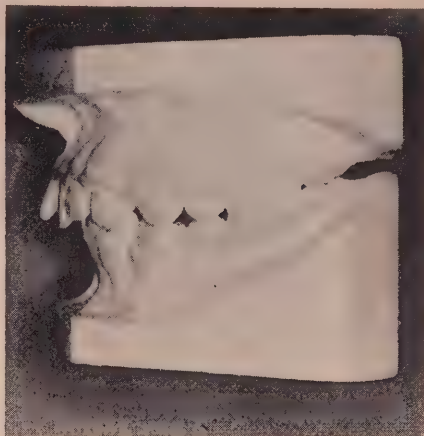


FIGURE 25



FIGURE 26



FIGURE 27

quite a mesial tipping or axial inclination. In this case, however, the mandibular third molars are almost vertical. The root growth is not far from completion. Three years and nine months later, or at age 21 years, 10 months (Fig. 23) the third molars have almost completely erupted into occlusion. The ideal vertical axial position of these teeth is very gratifying when one considers the age of the patient at the time of the second molar extraction.

(Fig. 24 & 25) This case was treated by

graduate students in the Graduate Department of Orthodontics, University of Toronto. This girl's age was 11 years, 11 months when the second molars were extracted. Four years later when the patient was aged 15 years, 11 months (Fig. 26), the development of the third molars seemed slower than any other case in this study. However, from a treatment standpoint, I think the young orthodontists had excellent results (Figs. 27, 28 & 29). Although none of us in the Graduate De-



FIGURE 28

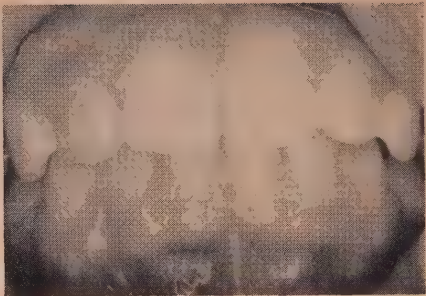


FIGURE 29



FIGURE 30

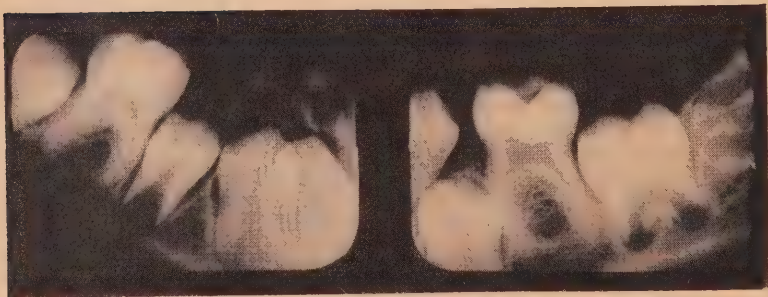


FIGURE 31



FIGURE 32

partment was an expert in assessing this girl's facial contour and beauty (Fig. 30), we all agreed that we must not "flatten" her mouth through orthodontic treatment. She already had a flat nose and very flat cheek bones. I think you will agree that this "after-treatment" profile shows that the contour of her mouth is in good balance with her facial features.

(Fig. 31) This girl, also treated by our graduate students, was 9 years of age when she presented herself for her first examination in the Graduate Orthodontic Clinic. The mandibular left six year molar had a pulp exposure. You will note that the second bicuspids are blocked out of the dental arch. The first step in the treatment of this case was to extract both the mandibular six year molars. Three years later we found that the self-correction of the mandibular second molars and second bicuspids was very acceptable (Fig. 32). The mandibular third molar crowns have also moved mesially with the second molars. At this stage, the maxillary second molars were extracted and a three year period of orthodontic treatment was started. (Fig. 33) At age 17 years, or five years after the maxillary second molars were extracted,

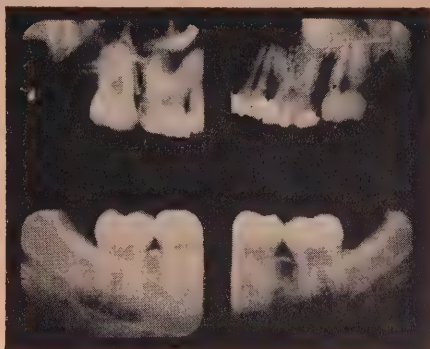


FIGURE 33

we observed that the eight molars were in good position. We were especially pleased with the vertical axial position of the third molars. When we sum up the extractions in this case, we find that the maxillary second molars were removed five years ago and the mandibular first molars were removed eight years ago. Figures 34, 35 & 36 show the before and after treatment of this case.

Summary and Conclusion: Although the age of all these cases ranged from 11 years, 11 months to 18 years when the second molars were extracted, we consider ourselves fortunate and perhaps lucky that we did not have a single failure. The results from orthodontic treatment were quite acceptable and in every case the third molars erupted into good occlusion without any complications.

When second molars were extracted before age 15, the third molars were in good occlusion at age 17 or 18. This early eruption of third molars is very gratifying to the orthodontist as it eliminates his usual worry about third molars causing a relapse of some of his treated non-extraction cases. Also the patient does not have to worry about impacted wisdom teeth.

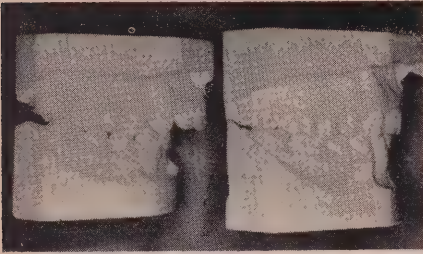


FIGURE 34

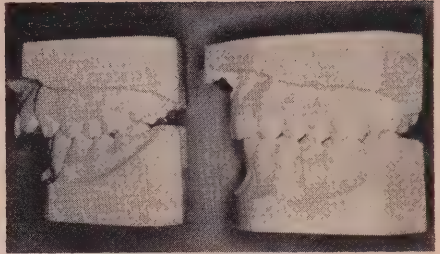


FIGURE 35

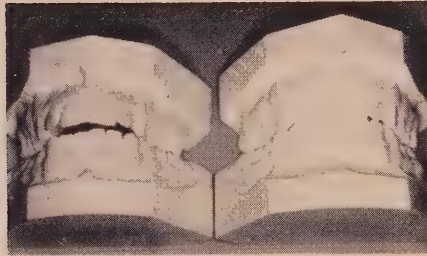


FIGURE 36

Of course, we realize that up to the present time the number of case histories we have studied is so limited that we can attach no statistical value to them. The scientific or clinical value, however, should give us some food for thought and encourage further investigation and treatment.

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1. Reid, Paul V: A Different Approach to Extraction, *Am. J. Orthodontics* 43: 344, 1957.

73 Warren Road.

Copies of the 1959 C.D.A. DIRECTORY are now available from C.D.A. headquarters at \$1.00 each.

Studies in Calcification During Experimental Lathyrism

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Response of Dentin of the Rat Molar and Incisor to diets containing Sweet Peas (Beta-substituted ethylamines).

REVIEW OF LITERATURE

The subject of Lathyrism has aroused considerable interest, because the skeletal aberrations produced by feeding rats with the seeds of *Lathyrus odoratus* are similar, if not identical, with certain idiopathic diseases of the human skeletal system, for which the etiology is unknown (Ponseti and Shepard^{15,16,17}).

The sweet pea, *Lathyrus odoratus*, has been recognized as being toxic to animals since the time of Hippocrates.⁸

Rats fed on diets containing large amounts of *Lathyrus odoratus* seeds develop bony deformities, due to the formation of numerous exostoses, especially at muscle-insertion sites, and to irregular proliferation of cartilage, particularly in the rapid growing epiphyseal plates (Geiger et al.,⁷ Ponseti et al.,¹⁶ Robinson et al.¹⁸).

Geiger et al.,⁷ Ponseti and Baird,¹⁵ and others have produced dissecting aneurysms in rats by feeding rations containing *Lathyrus odoratus*. McKay et al.,¹⁴ and Schilling and Strong¹⁹ have identified the toxic substance in *Lathyrus odoratus* as Beta (-N-gamma-L-glutamyl)—amino-propionitrile. But aminoacetonitrile which has not been demonstrated in *Lathyrus odoratus* seeds, is even more effective in this respect. Wawzonek et al.²³, and Lalich¹¹ have shown that Beta-aminopropionitrile when fed to rats, will produce aortic rupture, as well as other signs of lathyrism.

Lalich et al.¹² and Bird et al.² have produced dissecting aneurysms and skeletal defects in turkeys by feeding them different levels of Beta-aminopropionitrile.

Oral and Maxillo-facial changes in experimental lathyrism

The most important oral and cranial changes found in lathyrism are periosteal new bone formation, an unusually prominent exostoses at sites of muscle insertions to the mandible of rats. The most obvious being at the coronoid, and angu-

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lar processes (Gardner et al.^{4,5,6} and Selye^{20,21,22}), gross bony deformities of the cranium and voluminous exostoses of the occipital bone (Gardner et al.⁴), deformation of the mandible of *Amblystoma punctatum* embryos (Levy et al.¹³), hyalinization of the periodontal membrane (Carwell,³ Gardner et al.⁴), degenerative arthritis of the mandibular condyle (Gardner et al.⁴) and proliferation of connective tissue (Gardner et al.⁴) replacing the condylar growth cartilage.

A detailed investigation of the alterations in lathyrism indicates that the sweet pea toxin produces a specific change in mesenchymal tissue. The sweet pea is, therefore, an acceptable material for use in the investigation of the metabolism of mesenchymal tissues.

An insight into the diseases influencing the growth of dentin presupposes an understanding of the metabolism of all mesenchymal tissues. With this background in mind the study of the effect of sweet pea feeding with and without the addition of dietary supplementation (protein and amino acid) on the dentin of rat molars and incisors was undertaken.

EXPERIMENTAL MATERIALS AND METHODS

The rat was found to be especially favorable for this study because it has incisors which erupt relatively rapidly showing persistent growth. It has molars which resemble those of man in their morphology and in their limited growth.

Ninety-six male albino weanling rats, 45-50 gms. in weight, of the Holtzman-Sprague-Dawley strain, were used throughout this investigation. The rats were divided into groups at weaning and placed on various diets containing sweet peas. An additional group of male rats were pair fed and served as normal litter-mate controls. Each of the experimental rats was paired with one of the normal controls of the same weight. All control animals were sacrificed at the same time of day as the experimental animals. The carcasses were skinned and eviscerated.

The skulls were removed, and fixed in Zenker-formalin solution for one day, or in Bouin's solution for two days.

Ground Lathyrus Odoratus Diets.

The rats in the various groups were fed diets containing different levels of *Lathyrus odoratus* seeds (beta-aminopropionitrile), and *Lathyrus odoratus* seeds plus dietary supplements.

The *Lathyrus odoratus* diets were prepared by grinding the whole dry peas to a fineness permitting all of the pea meal to pass through a 24-mesh sieve. The dry ingredients were mixed separately and stored, the cod liver oil being added to portions of the mixture as needed.

The feedings were continued for different periods utilizing the various experimental and control diets which are described in detail below. For control and nonsupplemented experimental sweet pea diets, the feedings were continued for 1, 2 and 3 weeks respectively. For protective diets, P.D. I to P.D. VII, the feedings were continued for 56 days.

The experimental diet was as follows:

Lathyrus odoratus meal 50 per cent, casein* 10 per cent, cornstarch 25 per cent, sucrose 5 per cent, brewer's yeast powder (dried) 4 per cent, salt mixture (Hubbell, et al.^{9,**} 1937) 4 per cent, cod liver oil 2 per cent.

The control diets were as follows:

1. This control diet contains the same ingredients as in the experimental diet described above but replacing the *Lathyrus odoratus* meal by a 50% dried and ground commercial edible pea meal.
2. Milled Rockland rat diet.

* The casein was plain, untreated casein (not vitamin free).

** The salt mixture was that devised by Hubbell, Mendel and Wakeman (1937).

Protective Diets containing Lathyrus Odoratus

In this section of the present study, mixtures of dietary ingredients were fed in excess together with *Lathyrus odoratus* meal to determine whether they would suppress the development of lathyrism. The basal diet (P.D. I) contained 30 per cent sweet pea meal and 45 per cent cornstarch. Supplements were incorporated by replacing an equivalent amount of cornstarch. All diets contained either casein, gelatin, glutamine or cysteine.

The protective diets (*Lathyrus odoratus* 30%, plus dietary supplements) were as follows:

P.D. I.*** This is a control diet for all protective groups. It consists of ground sweet peas 30%, casein 10%, starch 45%, sucrose 5%, brewer's yeast 4%, salt mixture (Hubbell, et al., 1937) 4%, and cod liver oil 2%.

The following are experimental protective diets plus supplements:

P.D. II. Ground sweet peas 30%, casein 40%, starch 15%, sucrose 5%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4%, and cod liver oil 2%.

P.D. III. Ground sweet peas 30%, gelatin 25%, sucrose 5%, starch 30%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4% and cod liver oil 2%.

P.D. IV. Ground sweet peas 30%, casein 35%, glutamine 5%, cysteine HCl 4%, sucrose 5%, starch 11%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4% and cod liver oil 2%.

P.D. V. Ground sweet peas 30%, casein 10%, glutamine 5%, sucrose 5%, cysteine HCl 4%, starch 36%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4%, and cod liver 2%.

P.D. VI. Ground sweet peas 30%, casein 10%, sucrose 5%, cysteine HCl 4%, starch 41%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4%, and cod liver oil 2%.

P.D. VII. Ground sweet peas 30%, casein 10%, glutamine 5%, starch 40%, sucrose 5%, brewer's yeast 4%, salt mixture (Hubbell, et al.) 4%, and cod liver oil 2%.

Histologic preparation and analysis

After sacrifice and fixation the upper and lower jaws were dissected free from the skulls, so that tissue sections consisted of upper molars, upper incisors, and lower incisors with lower molars. These were embedded separately in individual combined paraffin-celloidin blocks.

Mesiodistal sections through two buccal roots of the upper and lower molars, buccolingual sections of the upper and lower molars, sagittal sections of the upper and lower incisors, and frontal sections of total intact hemisections of skulls were prepared for sectioning, mounting and staining by the following method.

After at least 24 hours in the fixative the tissue sections were decalcified by the following method: The procedure used for decalcification of mineralized tissues and teeth utilized ethylenediaminetetraacetic acid (EDTA) which has a pH of 7.0. All material was decalcified for 6 days in EDTA to effect the best staining.

To overcome any processing inadequacies and artefacts the use of a paraffin-celloidin double embedding method was utilized.

All histologic sections were cut consecutively at 6 to 8 micra and stained with Harris hematoxylin and eosin, Mallory's phosphotungstic acid hematoxylin, van Gieson's stain, periodic acid-Schiff stain or impregnated with silver according to the method of Gomori and aldehyde fuchsin stain after peracetic acid oxidation. After mounting in Canada balsam, the cover slips were weighted down to obtain flat sections.

*** P.D. is used as an abbreviation for protective diets.

OBSERVATIONS

Normal formation and calcification of dentin.

The dentin and formative organ of normal animals consists of several layers. In normal dentin, argyrophil fibers are located in the subodontoblastic zone which grows under the influence of the odontoblasts to curved fibers called Korff's fibers. Korff's fibers are confined to the depths of the odontoblast layer and are homogeneous. The Korff's fibers of the pulp undergo homogenization and enlargement under the influence of the odontoblasts to form a collagenous and primarily homogenous matrix of afibrillar predentin. This matrix differentiates into fibrils and cementing substance. The afibrillar predentin changes into the fibrillar predentin. The following phase includes calcification involving a chemical change in the cementing substance with a precipitation of mineral salts producing calcified dentin. The cementing substance of the predentin stains with silver, whereas, dentin is argyrophobic.

Protective diets — molar dentin.

The reactions of molar dentin in the rats fed nonsupplemented protective diet I (P.D. I) consisted of morphologic alterations that may be called the calciotraumatic reaction. In regard to the previous description given under the section on normal formation and calcification of dentin, the morphologic alterations found in the dentin can be described in the following manner.

The lathyritic dentin may be divided into the following zones: normal dentin, calciotraumatic line, pre-experimental hypocalcified dentin, experimental line in dentin, experimental hypercalcified dentin, experimental predentin, and odontoblastic layer.

Located adjacent to the peripheral normally calcified dentin, the lathyritic alteration was separated from the dentino-pulpal line by the formation of a new layer of lathyritic dentin and predentin

formed during the eight-week experimental period. The altered zone within the lathyritic dentin extended from the crown to the middle of the root. The immediate lathyritic zone of alteration consisted of a calciotraumatic line, a hypocalcified layer, an experimental line, and a hypercalcified zone (Figs. 4 and 6.).

The calciotraumatic line initially developed at the pulpal border of calcified dentin and was dependent in its position on the cessation of calcification. The lathyris toxin interfered with calcification, leaving a demarcated region between normal dentin and hypocalcified predentin (pre-experimental). This region was actually a small band-like area in the dentin staining with hematoxylin.

The pre-experimental hypocalcified layer occurring showed basically the same staining reactions of predentin, after differentiation of fibrils but before a change occurs in the cementing substance necessary for calcification. Therefore, the hypocalcified layer may be considered as the uncalcified pre-experimental predentin. Utilizing silver impregnation the hypocalcified layer stained strongly, similar to normal predentin, indicating an arrest of dentin calcification. The experimental line in the dentin occurred at the union of the hypocalcified pre-experimental dentin and the hypercalcified experimental dentin. It was a permanent alteration in the dentin, associated with the time of lathyritic injury.

The matrix formed during the period when the toxic Beta-aminopropionitrile was active was deficient in fibrils, as shown by silver impregnation. The hypercalcified layer stained less intensively with silver. As a result of incomplete differentiation, an excessive calcifying cementing substance persisted. After calcification, increased lime salts were found per unit volume of this hypofibrillar dentin. Therefore, it appears reasonable that the fundamental action of the sweet pea toxin may be upon both calcification and matrix differentiation. The experimental predentin remained unstained and was of

normal width. Adjacent and pulpward to the experimental predentin was the odontoblastic layer.

In addition to the above, there were focal sites of low mineralization scattered throughout the coronal dentin showing an advanced degree of interglobular dentin (Fig. 1). A wavy intermediate dentinal border was visible. The dentin was increased in thickness. Cellular inclusions occurred in the coronal dentin and the dentinal tubules were irregularly arranged in these areas. Vascular inclusions were absent. The mantle dentin was regularly calcified.

The reactions of molar dentin in the rats fed protective diet II consisted of a normal predentin zone that was afibrillar, homogeneous, and uncalcified. There was apparently normal differentiation into fibrils and cementing substance, as well as normal calcification of the cementing substance in predentin and in calcified dentin. There were no sites of interglobular dentin formation and the calciotraumatic response was absent, although a few isolated areas of hypercalcification and hypocalcification were present. The arrangement and length of dentinal tubules was regular and normal respectively. Vascular or cellular indentations or inclusions were absent and the mantle dentin was normal.

The reactions of the molar dentin in rats on protective diet III showed an uncalcified predentin with no globular formation. The dentin was free of calcospherites and uniformly stained. The mantle dentin was well calcified, with regularly arranged dentinal tubules. Vascular indentations were absent.

Differentiation of predentin was undisturbed, i.e., the formation of fibrils and cementing substance was normal.

The molar dentin in rats on protective diet IV showed a normal predentin thickness that was free of interglobular formation. Interglobular dentin and stratification were absent in the calcified zone of dentin. The dentinal staining reaction was



FIGURE 1

Photomicrograph of molar dentin of a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note interglobular dentin (decalcified section) with globular calcification of dentin. The dentinal tubules pass uninterrupted through the uncalcified and hypocalcified areas. Mantle dentin is not affected. Interglobular areas appear black in transmitted light. (Hematoxylin and eosin stain; X300.)

uniform and the mantle dentin well calcified. The arrangement of dentinal tubules as well as their length appeared normal. Vascular or cellular indentations were absent.

The calciotraumatic reaction, was apparently lacking in this group.

The molar dentin in rats fed protective diet V showed no alterations in the predentin, an absence of interglobular dentin and stratification, and normal staining reactions. Dentinal tubules were regularly arranged and vascular inclusions were absent. The calciotraumatic reaction was missing in this group.

The molar dentin in rats on protective diet VI showed no abnormal findings. The molar dentin in rats on protective diet VII showed normal predentin, however, interglobular coronal dentin was present



FIGURE 2

Photomicrograph of incisor dentin of a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note the great differences from primary and secondary dentin. There is an absence of any discernible tubules (no tubules). Dentin forming cells are included in the rapidly produced ground substance. (Hematoxylin and eosin stain; X600.)

in moderate amounts in this group. The staining reaction showed alternating areas of hypercalcified and hypocalcified dentin. (Fig. 5). Mantle dentin consisted of a normally calcified outer layer of dentin. Blood vessels and cellular inclusions were not present in the dentin.

Sweet pea diets — molar dentin

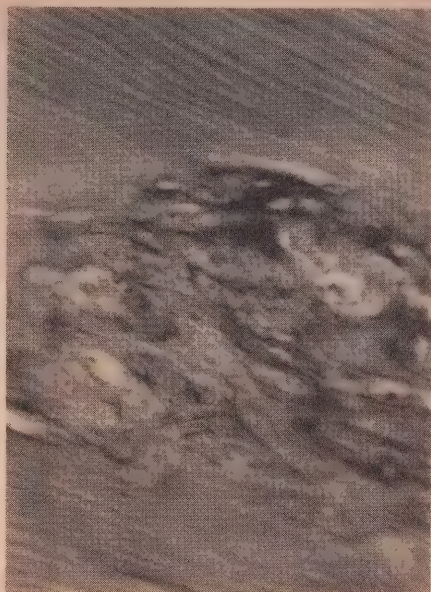
In the molar dentin of rats fed 50 per cent sweet peas without dietary supplements for 1 week, the predentin was of normal width and uncalcified. The dentin presented practically even mineralization and the structure was regular. After the first week of the experimental feeding, however, in limited areas there were sites of low mineralization with moderate interglobular dentin formation. Cellular inclusions were present in the dentin of this group but vascular inclusions were absent. Mantle dentin was normal and tubules were regular in arrangement. The calciotraumatic reaction was evident in this group, with disturbances in differentiation of predentin and in calcification of calcified dentin.

In the molar dentin of rats fed a 50 per cent sweet pea diet for 2 weeks without dietary supplements, the predentin was of normal thickness and uncalcified. Severe interglobular dentin was present in the calcified dentin. The calciotraumatic reaction was expressed by zones of hypercalcified and hypocalcified dentin. This zone of reaction was now located at some distance from the pulpal border. The mantle dentin was regular and dentinal tubules were parallel in arrangement. Vascular and cellular inclusions were absent, having been destroyed or degenerated by the second week of sweet pea feeding.

In the molar dentin of rats fed a 50 per cent sweet pea diet for 3 weeks without dietary supplements, the predentin was of normal thickness without the presence of globular formation. The calcified dentin was severely involved by interglobular spaces. The calciotraumatic reaction was present, with zones of low mineralization and hypercalcified areas. The zone of alteration was now located

FIGURE 3

Photomicrograph of molar dentin of a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note the irregular course and twisting of dentinal tubules. Their number has been greatly reduced. Some areas of this lathyritic dentin contain no tubules whatsoever. Dentinal forming cells were included in this dentin and have degenerated, leaving vacant the spaces which they formerly occupied. The irregular dentin is well demarcated from the primary dentin by a deeply staining line. (Hematoxylin and eosin stain; X750.)



at a greater distance from the pulpal border.

Adjacent to the pulpal horns there were large areas which consisted of a markedly abnormal type of dentin. The pulp reacted to the severe lathyrus stimuli by forming a type of dentin showing very great differences from primary and secondary dentin. The course of the tubules was obscured, and their number was greatly reduced. Some areas contained no tubules whatsoever. Cells were sparsely distributed in the ground substance of this dentin, simulating irregular tubular arrangement of dentin. There was a loss of the characteristic which was replaced by a more or less homogeneous arrangement (Fig. 3) of ground substance. The areas removed from this abnormal dentin consisted of tubules with normal arrangement and length. Vascular inclusions were absent.

Protective diets—incisor dentin

The pathognomonic effects in the incisor dentin in the group of rats fed protective diet I could be identified in midsagittal sections and consisted of several irregular folds occurring in the basal dentin (Figs. 7 and 8). The most basal zone of the labial surface of the upper incisor presented the folding of dentin. It showed the appearance of small irregular cone-like structures. Inasmuch as this portion of the incisor was the most recently formed, it provides an expression of the degree and nature of the physiologic capacity of the incisor at a time when the dentin was severely altered. The predentin layer was prominent due to an increased thickness and irregular structure at the germinal end of the incisor where new dentin formation occurs. The basal zone contained, however, a number of vascular and cellular inclusions in the calcified dentin

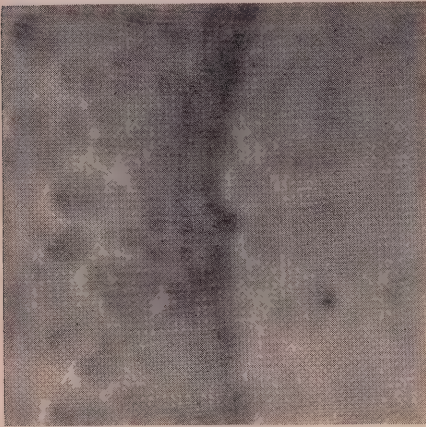


FIGURE 4

Photomicrograph of molar dentin of a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note the following zones from the dentino-enamel junction inward toward the pulp: normal dentin, calciotraumatic line, pre-experimental hypocalcified dentin, experimental line in dentin and experimental hypercalcified dentin. (Hematoxylin and eosin stain; X300.)

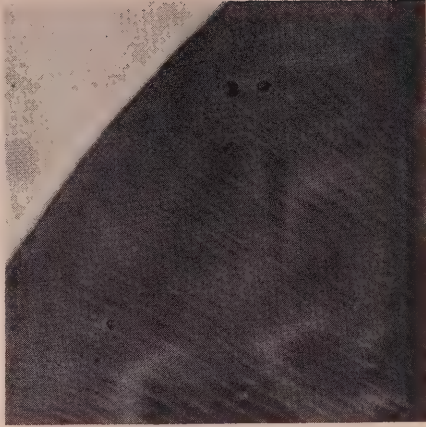


FIGURE 5

Photomicrograph of dentin from the crown of a molar in a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note incomplete calcification, the uncalcified or hypocalcified ground substance is bounded by the globules forming the interglobular dentin. Interglobular areas appear black in transmitted light. (Silver impregnation; X300.)

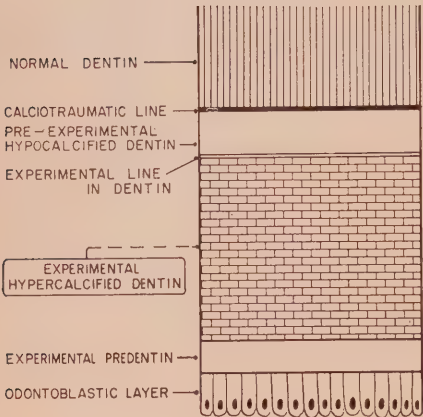
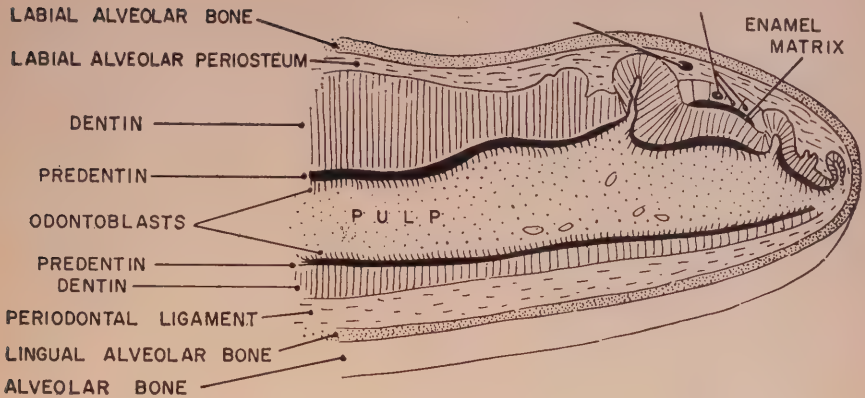


FIGURE 6

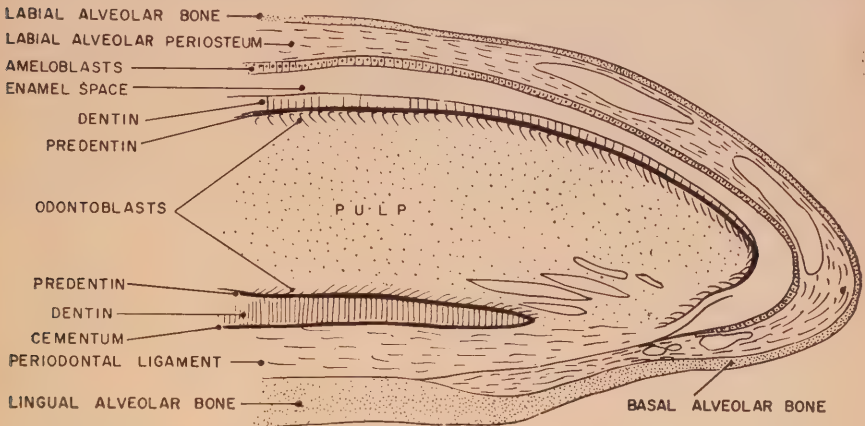
Diagram showing the development of the calciotraumatic reaction in the dentin after sweet pea feeding. Note experimental line in the dentin, that is, the boundary between pre-experimental and experimental dentin. Note also the layer of experimental predentin adjacent to the odontoblastic layer. Note calciotraumatic line between pre-experimental hypocalcified dentin and normal dentin, and the layer of experimental hypercalcified dentin adjacent to experimental pre-dentin.



CAMERA LUCIDA DRAWING OF BASAL PORTION
OF EXPERIMENTAL UPPER INCISOR X 3.5

FIGURE 7

Camera lucida drawing of lathyritic dentin from the basal portion of the upper incisor of a male rat fed a nonsupplemented sweet pea diet for 8 weeks (P.D. I). Note the multiple foldings of the basal dentin and increased thickness of all basal tissues. X3.5.



CAMERA LUCIDA DRAWING OF BASAL PORTION
OF CONTROL UPPER INCISOR X 3.5

FIGURE 8

Camera lucida drawing of the dentin from the basal portion of the upper incisor of a male rat fed a supplemented sweet pea diet for 8 weeks. This drawing is representative of the upper incisor from P.D. II, III, IV, V, VI or VII groups. Note the smooth and regular surface of the labial basal dentin and normal width. X3.5.

layer as well as in the predentin zone. Here tubular spaces in the dentin were found which were inclusions of entrapped pulpal connective tissue cells (Fig. 2). The dentino-enamel junction was very irregular. The dentin showed poor calcification with many large prominent interglobular spaces in areas where the overlying enamel was particularly disturbed. Hertwig's sheath was displaced on the lingual side of the incisor. The dentin for the most part was relatively normal in the anterior zone.

Nuclei were present in dentinal tubules in focal areas. The calcified dentin showed both stratification and extremely severe interglobular dentin. Areas of hypercalcification and hypocalcification were evident within the calcified dentin. The mantle dentin was irregularly calcified. The dentin was generally increased in thickness, however, it contained regularly arranged dentinal tubules.

In the incisor dentin of rats fed protective diet II, the predentin and dentin were of normal width (Fig. 8). A moderate degree of interglobular dentin had formed in the anterior zone (Fig. 5). There were some areas of hypercalcification and other areas of hypocalcification. The mantle dentin appeared normal. Dentinal tubules were regular in arrangement and vascular or cellular indentations were absent. Folding of basal dentin did not occur in this group.

In the dentin of the incisor of rats fed protective diet III, no abnormal findings were evident. Foldings in the basal dentin were absent.

In the dentin of the incisor of rats fed protective diet IV, no remarkable findings were observed. However, the dentin failed to show the numerous areas of folded basal dentin pathognomonic of the rats fed protective diet I.

In the incisor dentin of rats fed protective diet V, the predentin showed an interglobular structure. All other dentinal findings were not remarkable. The group was free of the basal or germinal dentinal foldings.

In the incisor dentin of rats fed protective diet VI, the staining reaction indicated a uniformly calcified dentin. Vascular inclusions were absent and the characteristic basal dentinal foldings of protective group I did not develop. All remaining findings were normal.

In the incisor dentin of rats fed protective diet VII, the predentin was of normal width and free of interglobular spaces. A minimal degree of interglobular dentin was present in the calcified dentin. The remaining findings were not remarkable and the basal dentin was free of any labial foldings or inclusion.

Sweet pea diets — incisor dentin

In the incisor dentin of rats fed 50 per cent sweet peas without dietary supplements for 1 week, the predentin remained of normal width. The calcified dentin showed moderate interglobular dentin formation. Hypercalcified and hypocalcified zones occurred in a calciotraumatic response. The remaining findings were normal. Foldings of the labial basal dentin were absent.

In the incisor dentin of rats fed a 50 per cent sweet pea diet for 2 weeks, without dietary supplements, the predentin was of normal width but the calcified dentin was increased in width. Interglobular dentin became severe after two weeks of the sweet pea diet. The calciotraumatic line was now removed some distance from the pulpal border. The remaining findings were not remarkable. Folding of the labial basal dentin did not occur after 2 weeks of experimental feeding.

In the incisor dentin of rats fed a 50 per cent sweet pea diet for 3 weeks, without dietary supplements, the predentin had increased in width. The calcified dentin was also increased in width and showed severe interglobular dentin formation. There were areas of hypercalcification and of hypocalcification, with the calciotraumatic response present but at a much greater distance from the pulpal border.

FIGURE 9

Photomicrograph of molar dentin from a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note the following zones from the dentino-enamel junction inward toward the pulp: normal dentin, calciotraumatic line, and pre-experimental hypocalcified dentin. (Hematoxylin and eosin stain; orig. mag. X200.)



The labial basal dentinal foldings present after 8 weeks of experimentally feeding a 30 per cent sweet pea diet did not appear after 3 weeks of a 50 per cent sweet pea diet.

DISCUSSION

The calciotraumatic pattern in the dentin is produced by a variety of toxic substances. The Beta - aminopropionitrile present in the sweet pea seed, *Lathyrus odoratus*, is one agent that specifically will produce this response. It has been shown by other investigators that a similar pattern has also been produced (Irving et al.,¹⁰ Applebaum,¹) by means of fluorine and strontium.

Inasmuch as the response of dentin to different procedures is similar in most respects, the calciotraumatic reaction appears appropriate. This lathyritic alteration consists, therefore, of the calciotraumatic line, the pre-experimental hypocalcified layer, the experimental dentin line, and the experimental hypercalcified dentin and experimental predentin.

The mechanism involving the histopathologic alteration in dentin during experimental lathyrism is within the scope of this investigation.

The structural alterations in the dentin after sweet pea feeding and specifically those of the calciotraumatic reaction may be considered in the following manner. The hypocalcified layer of dentin shows the same staining characteristics of late predentin. This similar staining occurs after differentiation of fibrils in the intercellular matrix before the change takes place in the cementing substance characteristic for calcification. Therefore, it is reasonable to consider this hypocalcified layer as the pre-experimental predentin which did not calcify.

The zone of hypocalcified dentin is the pre-experimental predentin and is demarcated from the normal dentin by the calciotraumatic line. This phenomenon is probably due to a severe alteration in calcium metabolism due to the Beta-aminopropionitrile toxin in sweet peas. This hypothesis is supported by the persistence of a layer of uncalcified predentin indicating that calcium metabolism is severely disturbed for a period of time following the formation of the calciotraumatic line.

The matrix formed during the period while the sweet pea toxin is active can be shown, by the Gomori method of silver impregnation, to be deficient in fibrils.



FIGURE 10

Photomicrograph of a mesiodistal section of molar dentin near the cemento-enamel junction of a male rat fed a 30 per cent nonsupplemented sweet pea diet (protective diet I) for 8 weeks. Note the formation of interglobular dentin in which calcification has remained incomplete. The incompletely calcified ground substance is bounded by globules that are arranged in an incremental pattern. The dentinal tubules pass uninterrupted through these uncalcified and hypocalcified areas. (Hematoxylin and eosin stain; orig. mag. X675.)



FIGURE 11

Photomicrograph of a mediolateral section of molar dentin from the upper second molar of a male rat fed a 30 per cent sweet pea diet (protective diet I) for 8 weeks. Note that the calcium salts are deposited in layers as linear calcification adjacent to the predentin and as globular calcification in locations distant from the predentin. (Hematoxylin and eosin stain; orig. mag. X675.)

An excessive amount of calcifiable cementing substance remains when incomplete differentiation is present. After calcification, more lime salts will occur per unit volume of this hypofibrillar dentin than occurs in normal dentin. Therefore, the fundamental action of the lathyrus toxin appears to be not limited to the process of calcification, but also to matrix differentiation. The effect of the lathyrus toxin lasts during the entire experimental period, so that there is an absence of normal dentin formation throughout this entire period.

The dentinal changes in lathyrism,

without protective substances added to the diets, can be interpreted as a result of direct and indirect damage to the odontoblasts.

The calciotraumatic line is formed at the pulpal boundary of calcified dentin and, therefore, is dependent in its location upon the time of inhibition of calcification. Evidently calcification is impaired shortly after administration of sweet peas, since after 1 week the calciotraumatic line is already a short distance from the predentin. The junction of hypocalcified pre-experimental dentin and the hypercalcified experimental dentin results



FIGURE 12

Photomicrograph of incisor dentin of a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks (P.D. I). Note the great differences from primary and secondary dentin. There is an absence of any discernible tubules. Dentin forming cells are included in the rapidly produced ground substance. (Hematoxylin and eosin stain; orig. mag. X600.)

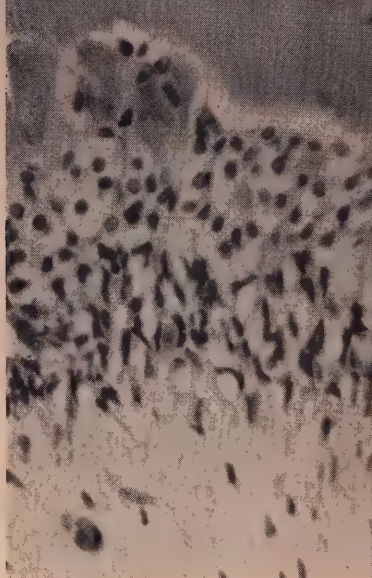


FIGURE 13

Photomicrograph of molar dentin from a male rat fed a 30 per cent nonsupplemented sweet pea diet for 8 weeks. Note the irregular course and twisting of dentinal tubules. Their number has been greatly reduced. Some areas of this lathyrismic dentin contain no tubules whatsoever. Dentinal forming cells were included in this dentin and have degenerated leaving vacant the spaces that they formerly occupied. The irregular dentin is well demarcated from the primary dentin by a deeply staining area. (Hematoxylin and eosin stain; orig. mag. X750.)

in a permanent change in the dentin. It is formed at the exact time of experimental sweet pea injury, because the production of normal predentin, ceases soon after the administration and absorption of the Beta-aminopropionitrile from the sweet peas. One can, therefore, utilize the sweet pea or its toxic nitrile for the experimental production of the hypocalcified pre-experimental dentin and the hypercalcified experimental dentin because the calciotraumatic reaction is readily produced after sweet pea feeding.

The calciotraumatic response of the dentin during experimental lathyrism consists of the following. The predentin that is present at the time of sweet pea feeding remains uncalcified. The border between the predentin and calcified den-

tin is demarcated as a separate and distinct hematoxylin — stained line or zone. The predentin forming immediately after absorption of the sweet pea toxin is disturbed in formation and altered so that it becomes hypercalcified. The differentiation of the fibrils of predentin is disturbed, producing an excess of calcified cementing substance. Therefore, a hypercalcified zone results. The affected zones remain unchanged and provide a stable record.

The calciotraumatic reaction during lathyrism may be due to the influence of the nitrile producing an alteration in calcium metabolism.

In the groups of rats fed protective supplements to the lathyrus diets (P.D. II to VII), the production of the calcio-

traumatic response was inhibited. The high casein, gelatin, glutamine, and cysteine appeared to offset the shock of the lathyrus toxin to calcium metabolism. This is evident since no zone of uncalcified predentin was incorporated into the calcified layer. In these instances it appears that formation and calcification of dentin progresses at a nearly normal rate.

From the histopathologic study of non-supplemented lathyrus animals the dentin undergoes an increase in formation, since the pulp is reduced. In addition, the dentin is found to be accumulated in irregular folds at the basal end of the incisor. However, there is actually no abnormal increase in the amount of dentin formed.

The new dentin layers that are being constantly formed cannot immediately occupy the position of the previously formed and more slowly erupting dentin layers. Therefore, dentin accumulates at the expense of the pulpal tissue. Because of the minimal space at the germinal end of the incisor, the dentin undergoes folding in this region.

This disturbance of balance between the rate of apposition and the rate of forward movement of the dentin layers continues throughout the life of the lathyrus animals.

The nonsupplemented protective diet I animals were the only group of rats showing a folding of basal dentin. The administration of protein and amino acid supplementations definitely inhibited the formation of this pathognomonic lathyrus alteration. The folding of the basal one-third of the incisor was not present after three weeks of a 50 per cent sweet pea nonsupplemented diet. It first became apparent radiographically after 8 weeks of a 30 per cent sweet pea diet. It appears that this minimal period of time is necessary for the accumulative effect of the lathyrus toxin to significantly inhibit the rate of growth and eruption of rat incisors. It is only after the severe inhibition to eruption becomes manifested that the folding occurs at the base of the in-

cisor, since apposition of dentin continues to take place.

In the sweet pea fed animals in this investigation the 30 or the 50 per cent nonsupplemented dose given for one week produced a stimulating effect. However, after 2 weeks a depressive effect resulted and after 3 to 8 weeks a destructive effect resulted because of the cumulative impairment (quantity of toxin times duration). Therefore, support is given to the theory that the agent of injury is additive.

In lathyrism the rate of development of the histopathologic dental deformations is not constant. The changes increase in severity as time progresses, usually occurring initially after 3 weeks of experimental feeding and reaching a maximum in 8 weeks. No regression of the dental alterations was noted during the course of the experiment.

Since these changes occur as early as 2 to 3 weeks after the initiation of lathyrus diets, the absorption of Beta-aminopropionitrile during this period emphasizes the extreme degree of toxicity of this compound to the metabolism of the dentin of rat molars and incisors.

The exact chemical nature of the lathyrus change and the metabolic site at which Beta-aminopropionitrile in the sweet pea acts are not entirely understood. It is possible that lathyrism affects the organic component of dentin primarily, rather than causing a disturbance in calcium and phosphorous metabolism.

The various supplements (proteins and amino acids) placed in protective diets II, III, IV, V, VI, VII to inhibit the development of lathyrism, were found to be protective, preventing the dental alterations from developing.

The protective action of protective diets IV, V, VII may in part be due to the presence of glutamine. The protective action of glutamine is probably related to its role in chondroitin sulphate and mucopolysaccharide synthesis. Along these lines, it is known that sweet pea feeding to rats specifically involves mesenchymal

tissues, and the metabolic defect has been hypothesized to be localized in the ground substance of dentin.

SUMMARY AND CONCLUSION

Beta-aminopropionitrile toxin present in the sweet pea appears to have a specific effect upon the dentin of rat molars and incisors. The addition of sweet peas (Beta-aminopropionitrile) to the diet of rats produced alterations in the dentin showing a distinct and specific pattern. This consisted of a calciotraumatic line, a hypocalcified zone, and a hypercalcified layer of dentin.

The hypocalcified zone represented the pre-experimental zone which had remained uncalcified. The border between the hypocalcified and hypercalcified layers of dentin represented the demarcation between pre-experimental and experimental dentin. Silver impregnation showed that the hypocalcified zone had a structure similar to predentin and that the hypercalcified layer contained fewer fibrils than normal dentin. The calciotraumatic response involves a disturbance in formation as well as in calcification of dentin.

The addition of high levels of dietary supplements of casein, L-glutamine, and L-cysteine HCl prevented the calciotraumatic response and was partially protective against experimental lathyrism.

Rats fed nonsupplemented lathyrus diets (P.D. I) exhibited a marked inhibition of eruption with a simultaneous folding of the basal dentin of the upper incisor. This pathognomonic alteration was absent in all rats fed protein and amino acid supplementation with the lathyrus diet.

The sweet pea is, therefore, a very useful tool for the study of the metabolism of dentin.

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EDITORIAL

THE BOARD OF GOVERNORS MEETING — 1959

The setting for the meeting of the Board of Governors of the Canadian Dental Association was the historic City of Halifax and the gracious host, the Nova Scotia Dental Association.

Many of the needs of our National Association that were anticipated or foreseen at previous annual meetings have now become acute. These are not situations that can be dispensed with by a snap decision, for they involve in some instances temporarily insurmountable difficulties that will only yield satisfactorily to the passage of time and the careful and diligent utilization of all available dental resources. The relentless population increase on one hand, opposed by the tortoise-paced graduation of trained personnel on the other, creates one of the stickiest enigmas of this dental era. Directed toward this specific problem were numerous recommendations and motions of which only a few will be mentioned.

From the President's Report came the resolution that the Canadian Dental Association reiterates its recommendation to the people of Canada that communities having a public water supply adopt a procedure for adjusting the fluoride con-

tent of their water supply to a level considered optimal for the maximum prevention of dental decay, and for this purpose seek competent dental, medical, and engineering advice.

From the Executive Committee Report came the motion that the Executive of the Canadian Dental Association request the Committee on Public Relations to make a serious study of the recruitment situation and to devise and execute ways and means of making the dental profession aware of its responsibility in this matter and stimulate it to take definite steps to encourage well qualified students to apply for entrance in our dental schools. A further motion appearing in the Executive Committee Report was that in view of the projected ratio of dentists to the population over the next ten years, during which period deterioration rather than improvement is foreseen, and in spite of the new teaching facilities which will come into full operation during the next year or two, we suggest that we should not permit a feeling of complacency to develop in respect to the development of still more new facilities for dental students. This motion was brought forward by the Council on Dental Education.

From the Auxiliary Services Committee, a double barrelled resolution: That the Canadian Dental Association convey its respects to the associations of ethical technicians for their defence of the principles on which their craft is founded and further that the Canadian Dental Association give support in strengthening the cooperative bond which exists between the dentists and the dental laboratory technicians, in the best interests of the public.

In the all-embracing and in some quarters contentious field of public relations, there were many deliberations and helpful suggestions. The intelligent conclusion was that good public relations is the sum total of individual effort by each and every practitioner and that favourable public appreciation could not be purchased through the skills of outside experts. No one denied that hired services would be of some benefit and that ultimately, if funds were plentiful, such persons could enhance the favourable reaction created and deserved by individual enterprise. The resolution arising from the Public Relations Committee Report concludes—resolved that the Association, except when projects having a certain specificity are contemplated, is not in favour of the retaining of public relations counsel in the hope of developing a good public relations program thereby.

One of the factors most intimately associated with public relations was revealed in the Health Insurance Studies Report dealing with Canadian Dental Service Plans Inc. It was pointed out that DSPI is a dental service corporation established to provide and assist in administrative services relative to plans for dental care which have been approved by the participating provincial dental bodies. Policy, then, remains the prerogative of the provincial body. That our profession was offered by DSPI the means of extending its services more broadly while retaining control of the administration of its own services was emphatically enunciated. The success or failure of these services hinges upon understanding, ap-

preciation, and sensible and widespread participation. Failure of such services through lack of intelligent utilization by the members of our profession will likely encourage the appearance of some form of government controlled plan.

Specific emphasis was placed upon the present day thinking of larger thoroughly organized groups in regard to dental care on a prepaid basis. The desires of certain unions to obtain some type of prepayment plan for dental care was thoroughly discussed.

And so the approximately thirty reports from the respective committees deliberately and carefully wove their threads into the cloth of Canadian dentistry — each one important to the other and all of them strengthened through unity.

The numerous and detailed deliberations will appear in the 1959 Transactions. Meanwhile the board members have undoubtedly set about, upon their return, to convey to the members at large the pressing need and urgency for dental unity. No one in attendance at the Board of Governors meeting enjoyed the thought of parting with money any more than those who remained at home, and yet each member left irrevocably convinced of the necessity of increasing the grants from the corporate members to the Canadian Dental Association in order that our Association may deal efficiently and effectively with the needs and problems of Canadian dentists.

True to form, the armchair critics, amply supplied with hindsight, have prepared and launched their little criticisms. It is to be hoped that some day these backbenchers will muster enough interest in the affairs of their Association to attend a Board of Governors meeting and become thoroughly acquainted with matters under discussion, and, who knows, perhaps then such persons might offer some helpful suggestions.

Each one of us will ultimately be asked to give a little and even these dissenters, if they read their transactions and enter into discussion with their board members, will contribute willingly.

Dr. W. G. McIntosh Installed As Association President

Dr. S. J. Phillips acting as installing officer presented Dr. McIntosh to the annual meeting of the association.

Much of the strength of any organization lies in the calibre of the men that are being trained to take over high positions within our organization.

Today we witness the end of the very successful Presidential reign of Dr. George Dewis, and the succession to that exalted position of Dr. William G. McIntosh. It is my privilege and I deem it a great honour to introduce to you our new President Dr. Wm. G. McIntosh.

From the beginning, Dr. McIntosh has been a marked man in the sense that it was soon evident he possessed those rare qualities of leadership that one day would bring him to you as President. Bill has always carried the standards of his profession high; he is a man of great vision, rare ability and a keen executive. In assuming office as President I am sure that Dr. McIntosh is conscious of the heavy responsibility with which he is faced. Knowing him well, I can assure you that he is fully equal to the task and he will not only bring honour to himself but great credit to his profession.

William Gordon McIntosh was born at Hanley, Saskatchewan. His early education was at Prince Albert and he took his pre-medical year at the University of Saskatchewan at Saskatoon and his dental education at the University of Toronto from which Faculty he graduated in 1937.

He practised for six months at Trenton and another six months at Oshawa; in 1938 he went to Toronto and has practised there ever since.

Since graduation he has participated in post-graduate courses in Periodontics at the University of Toronto, Ann Arbor, Michigan and University of Alabama.



*Dr. W. G. McIntosh, President,
Canadian Dental Association.*

In 1957 he received his Master of Science Degree from Toronto.

Dr. McIntosh has held many offices in organized dentistry, to name a few:

1949-54 — C.D.A. Research Committee Chairman;

1955—Chairman of C.D.A.-O.D.A. Convention;

1957 — Member of Board of Governors C.D.A.;

1957-58—Research Chairman of American College of Dentists;

1958 — Member Executive Committee C.D.A.;

1958-59 — President of the Canadian Academy of Periodontology.

From 1942-46 he served as Major in the R.C.D.C.

His dental appointments to hospitals and schools have been many:

—Associate Professor in Periodontics U. of T.

—Consultant in Periodontics.—Hospital for Sick Children, Toronto—Sunnybrook Military Hospital.

In 1950 he had the honour of being made a Fellow of the American College of Dentists.

These are strenuous days for our profession, your duties will be many, you will have vexing decisions to make and you will have disappointments but let me assure you that you will have wonderful support and co-operation from every member of the profession across Canada.

May God direct your judgement and bless your efforts.

Bill I congratulate you and I am very happy to install you as President of the Canadian Dental Association.

I charge you with the responsibility of leading this great organization for the coming year.

Ladies and Gentlemen may I have the honour and privilege of presenting to you Dr. William Gordon McIntosh . . . President Canadian Dental Association.

Dr. McIntosh responded as follows:

Mr. Chairman, Dr. Kerr, Ladies and Gentlemen,

At this moment my mind is full of many contrasts. I am truly thrilled to be President of our national organization. I am also seriously saddened at the turn of events which has resulted in my presence before you.

The turn of events to which I refer is of course the recent illness of Dr. W. J. Langmaid of Oshawa, Ontario who, but for this illness, would be addressing you now. It is most disappointing to dentistry and to all dentists, particularly those who have had the opportunity and good fortune of working with Dr. Langmaid, to realize that he is not going to be at the helm of our dental ship for the coming year. His sparkle, enthusiasm and

wise counsel in all his dental activities have been a great stimulation to others and will be sorely missed in the months ahead.

It seems rather an odd coincidence that for a few months after my graduation I worked for Dr. Langmaid in his office in Oshawa, and now today I seem to feel that again I am working for him. The greenhorn who went to Dr. Langmaid's office some 22 years ago has never forgotten, and will always be grateful for, the wise counsel and the hospitality of both office and home that were so abundantly and generously given. Ladies and Gentlemen, one of the great satisfactions to me in accepting this office is the hope and prayer that I can do something worthwhile for Dr. Langmaid.

To you, Dr. Phillips, I want to express my sincere thanks for completing a task that I know has been a difficult one for you. When Dr. Phillips was named as the Installing Officer for this year it was with the thought that he would have the pleasure of installing to this office his closest and dearest friend. I am very honored, Dr. Phillips, that you have been willing to carry on under the circumstances and I thank you most sincerely for your very kind words.

Again thinking of the contrasts of the moment, I am extremely proud to have the opportunity of serving our profession through this singular position. At the same time I am more than a little fearful that my abilities will not measure up to the responsibilities and obligations of the office. Needless to say, I am counting on the help and support of Dr. Dewis, Dr. Gullett, the Board of Governors and all the other stalwarts of dentistry. With this help I give you a pledge to do my best for the profession and for Dr. Langmaid.

I am sorry that Marion is not able to be here to share with me the thrill of the moment and to enjoy the hospitality and good fellowship of our friends in Eastern Canada.

My congratulations are extended to Dr. George Dewis who has made a wonderful President and who has done a great

deal for dentistry from one coast of Canada to the other. George has been a faithful servant to dentistry for a good many years and along with his associates has set up a very enviable pattern that will be hard to equal.

Dr. Jim Coupland, the able and energetic general chairman of next year's Annual Meeting in Ottawa in September 1960, already has arrangements well in hand for an outstanding meeting. We both

extend to you all a cordial invitation to be present.

Now may I in conclusion ask for your active help. Dentistry, to grow in stature as it should, needs the conscientious support of every member in its ranks. Many problems lie ahead but I am confident that they can be surmounted if we work as a team with every dentist in Canada an active member on that team.

Ladies and Gentlemen, thank you sincerely for your confidence and trust.

Presentation to the Past President Dr. George M. Dewis by Dr. S. J. Phillips.

Mr. President, Distinguished Guests, Ladies and Gentlemen:

I have another pleasant duty to perform in the name of every member of the Canadian Dental Association and that is to express to Dr. George Dewis our sincere appreciation and gratitude. The thought that is uppermost in my mind, at this time, is the desire to express to you our appreciation for all you have done for us, to congratulate you on your fine year's work and to express thanks of all ten Provinces joined together here to honour you.

Our earnest hope is that you will long be blessed with good health. As you come to the end of this pleasant period of your life may you often relive all the pleasant memories of being our President.

We would like to think of you and we shall always remember you as you stand before us as a gracious host, a great educator and an inspiring leader, but above all, a warm and kindly friend.

It is now my pleasure and happy privilege to ask you Dr. Dewis to accept the Past President's Jewel—presented to Dr. George Dewis as a symbol of fellowship between yourself and the dentists of Canada. May it always be held as a memento of our esteem and respect.

A good wife inspires a man to his greatest heights of success. The poets say:- Quote "Women are the poetry of the world in the same sense that the stars are the poetry of heaven; clear, light-giving, harmonious. They are the terrestrial planets that rule the destinies of we men".

So for your wonderful help as the wife of the President and as a memento of this occasion I would ask you to accept these roses with our grateful thanks.

And now George on behalf of the Canadian Dental Association and in recognition of the services of both Mrs. Dewis and yourself I ask you to accept this (silver tray) as a remembrance, and a token of our appreciation for a very successful year as President of the Canadian Dental Association.

THE PROVINCES

BRITISH COLUMBIA

B. C. Dental Association

As a result of elections at the annual meeting, these men will constitute the new executive of the association: President, Dr. C. B. Jameson; President-elect, Dr. H. R. Henderson; Past-President, Dr. W. P. Munsie; Treasurer, Dr. O. F. Wright; Secretary, Dr. A. Daysmith; Directors, Drs. F. K. Berry, I. U. MacIntosh, J. A. Alexander, W. G. Dempsey, F. J. Netherton, J. M. Carefoot.

* * *

At the annual business meeting the association passed a motion altering the constitution in order to create additional directors from the outlying areas of the province. Every district will have representation on the executive at the meetings which are held monthly during the active season. The additional directors will be elected in 1960 at the next annual meeting.

* * *

The principle of entering into pre-paid dental plans was approved by the association, and the executive was authorized to present an act to the legislature which will make the setting up of any such plans possible.

Two separate committees have studied and will continue to study plans presently in effect, both medical and dental, in this country and in the United States. The best features of these various existing plans will be adapted into something which the profession in B. C. can use and which will be in the best interest of not only the patients, but also the members of the dental profession.

D. H. M.

NEW BRUNSWICK

Maritime Orthodontic Study Club

A meeting of the Maritime Orthodontic Study Club took place at the Nova Scotian Hotel in Halifax on June 22nd. The meeting

was held in conjunction with the C.D.A. Convention and there was a full attendance by members and guests.

The guest speaker was Dr. Austen A. Oliver of the University of Montreal Orthodontic staff. Dr. Oliver spoke on "Extraoral Force Therapy," dealing with Jay's concept of the use of headgear as a full appliance for active treatment and retention. The presentation was accompanied by transparencies and finished cases. A question and discussion period followed.

Motion pictures of "The Bite Plane" and "Rehabilitation of Cleft Palates," were also shown as part of the program.

The speaker was thanked by Dr. T. E. Spracklin of Halifax, and Dr. W. O. Mulligan of Saint John, presided.

W. O. M.

NEWFOUNDLAND

Newfoundland Dental Society

The Spring Clinical Sessions of the Newfoundland Dental Society provided three stimulating dinner meetings.

Opening the series on March 6th, Dr. Bruce Bowden spoke on the subject of Pulp Protection, discussing the reaction of the dental pulp to various filling materials.

Members of the USAF dental corps were the Society's guests on March 18th at Bally Haly Golf Club. Dr. William Green presented a paper on Vincent's Infection.

Dr. George French concluded the series with a discussion of the mechanical principles of cavity design. This meeting at the Newfoundland Hotel was planned for May 20th, allowing members ample time to prepare for the fishing holiday on the 24th.

On May 15th the wives of dentists residing in the St. John's area assembled to form their own organization. First officers elected were:

President, Mrs. B. L. Bowden; Vice-president, Mrs. G. E. Mallam; secretary, Mrs. G. P. French; and treasurer, Mrs. G. B. Curtis.

Monthly meetings are planned for the fall and winter months ahead.

D. K. P.

NOVA SCOTIA

Nova Scotia Dental Association

Dr. A. B. Haverstock of Halifax, was elected president of the Nova Scotia Dental Association during the 69th annual meeting held in Halifax recently.

Other officers elected were: Dr. W. H. Macneil, Halifax, senior vice-president; Dr. T. L. Rogers, Yarmouth, junior vice-president; Dr. A. A. Dunlop, Halifax, secretary, and Dr. Harold MacCormack of Truro, executive member. Dr. P. S. Christie of Halifax, was renamed N.S.D.A. delegate to the Board of Governors of the C.D.A.

Drs. F. C. Fennell, Halifax, and R. F. Cameron, Dartmouth, were appointed auditors. Three chairmen were appointed, Dr. K. M. Kerr, Bedford, dental public health; Dr. W. H. Macneil, Halifax, health insurance studies, and Dr. Ray Epstein, hospital dental services. Retiring president Dr. Arthur H. Ervin, Dartmouth, was chairman.

Dr. John Burke Elected President P.C. Association

Dr. John Burke of Sydney, N.S., has been elected president of the Cape Breton South (provincial) Conservative Association. He succeeds Alex LeDrew.

Dr. J. Findlay Appointed Lecturer at Dalhousie

Dr. John Findlay of Glasgow, Scotland has been appointed lecturer in periodontics at the Faculty of Dentistry, Dalhousie University.

Dr. Findlay has been granted an immediate leave of absence for one academic year to pursue further study at the University of Toronto. On his return to Dalhousie he will assume the rank of associate professor of periodontics.

Since 1950 Dr. Findlay has been full-time lecturer in operative dentistry at Glasgow University. While holding this position he carried through two research projects, for which he was awarded the degree of doctor of philosophy by the medical faculty of Glasgow University. Previous to his university appointment he was house surgeon in Glas-

gow Dental School and Dental surgeon at Robroyston Hospital. In 1955 he became associated with the endocrine clinic of the Glasgow Royal Infirmary, where he specialized in the treatment of oral conditions in endocrine cases.

Dr. Findlay is presently continuing his research with a study of the effect of emotional disturbance on oral tissues, particularly on the gums. He is also preparing for publication three papers on the results of the work he carried out for his Ph.D. thesis.

ONTARIO

Three Veteran Dentists Honoured

Three Lakehead dentists, representing 150 years of general practice were honored in June for their long-time community service.

Dr. Frank Blatchford (retired), Dr. J. S. Strachan and Dr. W. D. Ramore who are still practising, were presented with honorary memberships in the Ontario and Thunder Bay dental associations.

The three dentists were honoured guests at a testimonial dinner given by the dental association and each received an engraved scroll.

Dr. Strachan was born at Brussels, Ont., and graduated from the R.C.D.S. in 1910, he moved to Fort William in that year and established his practice. A singer of note, he won the Thunder Bay Music Festival in his class 13 years ago. Dr. Strachan played soccer at university, and as a golfer, won the Thunder Bay championship in 1939 and the amateur championship in Duluth the same year. He was president of the Thunder Bay Dental Association in 1920.

Dr. Strachan is a member of Fort William-Port Arthur Kiwanis Club, Odd Fellows, Scottish Rite Masonic Order and a charter member of Fort William Country Club.

Dr. Frank A. Blatchford, who retired two years ago, graduated from the R.C.D.S. in 1909. He was born at Hensall, Ontario in 1886. After receiving his degree he moved to North Bay and in February 1910 moved to Fort William.

Dr. Blatchford is pictured in the 1943-44 edition of Who's Who in Canada. He has been twice president of the Thunder Bay Dental Association and member and one-time president of the Royal Lodge of Dental Surgeons

for 12 years. He was also Ontario representative of the Canadian Dental Association for 10 years.

Locally, Dr. Blatchford served on Fort William board of education for four years; was a member of the chamber of commerce and cancer society executives; aided in organizing the VON; is a director of Fort William Building and Realty Company; past president of the Canadian Club; a member of the board of governors of Lakehead College since its inception; charter member of Fort William Golf and Country Club; Scottish Rite Mason; member of Independent Order of Foresters and chief ranger in 1914, and member and past president of Rotary.

Dr. W. D. Ramore is in his 51st year of dental practice. Born at Picton, Ontario, he graduated from the R.C.D.S. in 1908 and set up practice in Port Arthur. Dr. Ramore was a noted lacrosse player and toured Australia in 1907.

Hamilton Dental Association

A past president of the Ontario Dental Association and the former commanding officer of the Canadian Dental Corps overseas in the Second World War, were honoured with life membership recently by the Hamilton Dental Association. They are Dr. A. R. Poag and Dr. L. V. Janes. Dr. Poag besides having held the office in the O.D.A. is a Fellow of the American College of Dentists. Long and distinguished service in Hamilton was cited in the H.D.A. awards.

QUEBEC

Alpha Omega, Montreal Alumni Chapter

The installation dinner of Alpha Omega Alumni, Montreal Chapter closing the 1958-1959 season was held on May 23rd, 1959 at the Queen Elizabeth Hotel.

Installed as officers for the forthcoming year were:

Dr. Fred Vosburg, president; Dr. M. M.

Greenblatt, vice-president; Dr. Len Druckman, corresponding secretary; Dr. George Silver, recording secretary, and Dr. Herbert Hops, treasurer.

Speaker for the evening was Dr. Herbert Caplan, past District Regent, who gave a fine talk on the merits of Alpha Omega—its potential and ability to maintain professionalism being dependent upon the zeal and spirit of the membership at large.

Dr. Harry Skurnik the immediate past president reported upon the year's activities and scientific program.

His comments included the highlights of the year's scientific program which was the first annual seminar held by Alpha Omega in Montreal. The course in periodontology given by Dr. Gerald Kramer of Boston, from November 30th, 1958 to December 3rd, 1958, was most interesting and beneficial to all participants. Dr. Skurnik was thanked for his fine leadership throughout the year by Dr. Herbert Caplan.

Dr. Fred Vosburg, incoming president, reported on the future activities of the fraternity which should give us a most interesting scientific and social year.

M. G.

Montreal Dental Research Society

At the last meeting of the Society in April, Dr. Lyman Francis of McGill University was elected president, and Dr. William B. Donohue of the University of Montreal, Secretary of the Society. The first meeting of the 1959-1960 Academic Year will be on Thursday, October first at 7.30 p.m., at the Faculty of Dental Surgery of the University of Montreal. The essayist will be Dr. Claude Baril of the postgraduate school of Orthodontics, University of Montreal, who will present the results of "An electromyographic analysis of the temporalis and facial muscles in thumb and finger sucking subjects."

Dr. Jean-Paul Lussier will present a brief report on the recent Gordon Research Conference, and Dr. Donohue will report on the Conference of the International Academy of Oral Pathology.

W.B.D.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Oct. 26, 1959	Academy of Dentistry Annual Dinner	Royal York Hotel, Toronto	Dr. R. M. Grainger,	Faculty of Dentistry, 230 College St., Toronto 2B.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
May 15-18, 1959	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

UNIVERSITY OF MINNESOTA SCHOOL OF DENTISTRY

Third Annual Course in Advanced Oral Pathology — April 21-April 26, 1960.

For further information write: Dr. R. J. Gorlin, Prof. & Chairman Div. of Oral Pathology, School of Dentistry, University of Minnesota, Minneapolis 14, Minnesota.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Three refresher courses: November 7, 1959—Hospital Protocol for the General Practitioner.
November 14, 15, 1959 — Oral Cancer.
November 21, 22, 23, 1959 — Major Oral Surgery.

For further information write: Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 Seventh Ave. South, Birmingham, Alabama.

TEMPLE UNIVERSITY SCHOOL OF DENTISTRY Graduate & Postgraduate Program 1959-60

Clinical Endodontics—Oct. 26-31, 1959
Clinical Oral Pathology—Jan. 14-16, 1960
Advanced Orthodontics—Jan. 17-30, 1960
Anatomy—Head & Neck Dissection—
Feb. 3-June 8, 1960
Advanced Fixed Prosthesis—Feb. 8-13, 1960
Periodontal Prosthesis—Feb. 8-13, 1960
Present Day Periodontal Practice—One day a
week for 10 weeks—Feb. 16-April 26, 1960
Practice Administration—Feb. 27, 1960

Clinical Diagnosis & Oral Medicine—
Feb. 29-Mar. 4, 1960
Electronic Electro-surgery—Mar. 18-19, 1960
Full Denture Prosthesis—Mar. 21-26, 1960
Advanced Surgical Techniques in Periodontal
Therapy—Apr. 4-9, 1960
Graduate Orthodontics—Sept. 12, 1960
A two year course.

For further information write: Dr. L. Herman, Director, Postgraduate Studies, Temple University School of Dentistry, 3223 North Broad St., Philadelphia 40, Pa.

Other information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

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JOURNAL

Les épithéliomas du plancher buccal et du maxillaire inférieur*

Par PIERRE CERNEA, professeur agrégé (Paris)

Le présent travail est basé sur l'étude de plus de 200 observations personnelles d'épithéliomas du plancher buccal et du maxillaire inférieur, à l'exclusion des cancers métastatiques. Nous savons bien tout ce que représente d'inexact le terme d'épithéliome du maxillaire; cependant, il rend compte du siège de la lésion, de ses conséquences cliniques et thérapeutiques et, compte-tenu des faits, il n'est pas plus incorrect que celui d'épithélioma gingival quand on groupe sous ce titre certains épithéliomas térébrants dont l'origine gingivale est discutable. Par contre, même si leur origine est différente, les cancers du plancher de la bouche et du maxillaire inférieur offrent les mêmes difficultés thérapeutiques: l'abord du plancher buccal est gêné par l'arc mandibulaire, l'envahissement secondaire de l'os pose dans les deux cas le même problème. Il

est donc logique de discuter ensemble le traitement de ces deux variétés de tumeurs, même si nous les séparons pour leur étude clinique.

LES ÉPITHÉLIOMAS DU PLANCHER DE LA BOUCHE

Leur origine est la muqueuse sub-linguale qui tapisse l'espace triangulaire antérieur compris entre la partie fixe de la langue et la face interne du maxillaire tapissée de sa gencive. La région sub-linguale se prolonge latéralement par les deux sillons gingivo-linguaux; mais nous faisons entrer également dans l'étude de ces épithéliomas ceux qui naissent de la face inférieure de la langue sur le segment muqueux étendu du bord musculéux de la langue à la muqueuse sub-linguale. En effet, l'aspect, la texture, les lymphatiques, la vascularisation apparentent ces deux régions.

Cependant, le siège habituel de ces carcinomes est remarquable; ils évoluent

*Conférence prononcée au cours du Congrès de l'Association dentaire canadienne tenu à Montréal, en octobre 1958.

presque toujours sur la crête salivaire qui parcourt le plancher buccal et témoigne de la présence de la glande sous-maxillaire et de son prolongement antérieur. L'anatomie pathologique est capable de prouver dans certains cas l'extension du néoplasme dans le parenchyme glandulaire et même son origine salivaire.

Ainsi, à côté de l'origine muqueuse des cancers du plancher buccal, il est nécessaire de faire la part des épithéliomas

d'origine glandulaire, leur proportion n'est pas encore fixée.

La fréquence de ces tumeurs est difficile à apprécier, mais elle est relativement grande. Si l'on compare les chiffres publiés en France et aux Etats-Unis, la proportion des épithéliomas du plancher et du maxillaire est de 15 à 17% des épithéliomas de la cavité buccale (plancher 10%, maxillaire 6.3%).

L'âge des malades oscille habituelle-



fig. 1—Forme ostéolytique—destruction de la branche montante et de la branche horizontale. La dent paraît suspendue.



fig. 2 — *Forme ostéolytique. L'irrégularité des bords de l'image est plus apparente que dans la fig. 1.*

ment entre 40 et 70 ans, avec une grande fréquence aux environs de 55 ans. Le sexe féminin est rarement atteint; le chiffre de 2 ou 3% est celui que donnent HAYES MARTIN, DARGENT, S. LABORDE et TAILLARD, REVERDY et COURTIAL. Notre proportion actuelle est un peu supérieure: elle dépasse 9%; elle s'est nettement accrue au cours de ces dix dernières années.

Ce cancer grave fortement adénogène, souvent bilatéral est surtout un cancer de l'homme. La propagation à la langue et au maxillaire est rapide; dans ce dernier cas, la lésion osseuse l'apparente davantage par ses manifestations cliniques et par ses incidences thérapeutiques aux épithéliomas du maxillaire; le but de

ce rappel clinique sera donc l'étude des formes de début.

La forme médiane et para-médiane siège au voisinage du frein de la langue, tantôt au niveau de son insertion inférieure, tantôt un peu plus externe, au niveau de la caroncule salivaire. Au début, c'est une ulcération de petite dimension, légèrement douloureuse, confondue par le malade avec un aphte ou la blessure d'un appareil de prothèse; cependant, l'induration et la saillie des bords doivent donner l'éveil au clinicien. A la période d'état, la bilatéralisation est presque de règle; une ulcération étendue a détruit le frein, s'est établie à la face inférieure de la langue et gagne vers la gencive. Mais la tumeur évolue également en profondeur,



fig. 3 — *Forme pseudo-pyorrhéique — Destruction de la portion alvéolaire.*

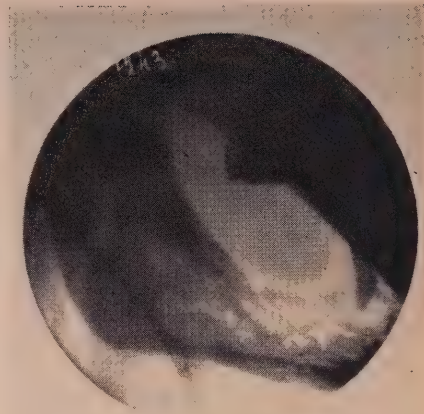


fig. 4 — *Forme térébrante — aspect "mité" de la branche horizontale.*

elle déborde largement les limites de l'ulcère, sans démarcations nettes; elle se propage dans le plancher buccal, elle respecte le mylo-hyoïdien pendant un certain temps et gagne le long des canaux de Wharton. La souplesse ou la rigidité du mylo-hyoïdien sera jugée par le palper bi-manuel pendant un effort de déglutition. En arrière, la propagation entre les génio-glosses fixe la pointe de la langue, que traduisent la gêne de la parole, de la mastication et même de l'examen. En avant et en dehors, l'extension se fait vers le maxillaire; pendant un certain temps il est respecté, mais, plus tard, la destruction commence et provoque des signes dentaires et osseux. Par contre, chez l'édenté complet, le néoplasme n'a aucun mal à franchir le maxillaire pour se propager vers le vestibule, la lèvre ou la joue.

La gêne fonctionnelle est variable. Il est surprenant de voir que, malgré l'importance des lésions, la déglutition reste encore assez facile. Les douleurs précoces, d'abord provoquées par les repas, deviennent spontanées, s'accompagnent d'une otalgie pénible et s'accroissent encore s'il y a destruction osseuse.

A un stade plus tardif, à l'envahissement de la langue et du maxillaire, s'ajoute le franchissement du mylo-hyoïdien. Il s'annonce par un léger oedème sous-maxillaire; il s'apprécie par le palper bi-

manuel et se perçoit dans la région sous-maxillaire sous forme d'une infiltration diffuse doublant le bord inférieur et la face externe de l'os et faisant parfois corps avec l'adénopathie.

A la période terminale, la langue est entièrement fixée; elle est envahie jusque dans la région du V lingual; la tumeur occupe la totalité du plancher. La déglutition et la parole sont si difficiles et provoquent de telles douleurs que les malades préfèrent ne pas s'alimenter et rester silencieux, tandis que se poursuit un amaigrissement lent et inexorable.

Ces formes médianes ou para-médianes deviennent donc rapidement des formes bilatérales.

Les formes latérales débutent sur la crête qui suit le canal de Wharton ou sur la face inférieure de la langue.

Sur la crête, le tableau clinique peut être identique à celui que nous venons de voir, mais, il peut aussi prendre le type fissuraire; il faut écarter la langue pour observer une crevasse qui s'ouvre dans le plancher buccal; ses bords sont déchiquetés, saillants, indurés; ils mènent dans une cavité anfractueuse, qui est le plus souvent une simple fente dans une tu-



fig. 5 — Forme térébrante de la région incisive, aspect "ostéitique".

meur. L'extension se fait en dedans vers la langue, en dehors vers le maxillaire inférieur auquel cet épithélioma paraît s'accoler beaucoup plus vite que dans les formes médianes; en arrière, c'est vers la base de la langue et le pilier du voile que gagne la tumeur. Mais bien souvent l'extension s'est faite plus rapidement vers la ligne médiane qui est franchie et l'envahissement est bilatéral et asymétrique.

Sur la face inférieure de la langue, c'est le type ulcéro-végétant classique qui s'observe.

Les formes interstitielles sont rares, nous en avons rencontré six cas. Elles se révèlent par un nodule ligueux, à limites imprécises, situé dans le plancher buccal, parfois adhérent au maxillaire. L'absence d'ulcération est souvent une cause d'erreur. Ces épithéliomas naissent sans doute aux dépens des glandes salivaires sublinguales ou sous-maxillaires; dans deux cas, la tumeur faisait corps avec la glande sous-maxillaire; dans l'un d'eux, elle était traversée par le canal de Wharton et le nerf lingual. L'histologie a pu montrer dans certains cas des plages d'épithélioma

spino-cellulaire voisinant avec des plages d'épithélioma glandulaire. Il faut rapprocher de ces tumeurs les formes de début déjà signalées par HAYES MARTIN et se manifestant par un petit kyste du plancher buccal translucide, mais qui ne tarde pas à s'ulcérer, ce kyste pouvant s'interpréter comme une des réactions du parenchyme glandulaire au cours de l'évolution d'un épithélioma.

Les formes associées sont très particulières à cette localisation; l'expérience montre que l'évolution de ces tumeurs ou leur guérison est souvent suivie de l'apparition d'un autre épithélioma qui siège sur les voies aéro-digestives supérieures.

Les formes anatomo-cliniques ne mériteraient pas de mention complémentaire, si nous ne désirions insister sur les formes en surface: elles s'opposent aux précédentes. Ce sont des ulcérations superficielles dont l'induration est plus facilement perceptible sur les bords, mais reste toujours peu profonde. Les lésions peu douloureuses se propagent sur le plancher buccal, la face inférieure de la langue, chevauchent le rempart alvéolaire sans jamais s'accompagner d'induration profonde. La difficulté du traitement tient à leur étendue et à leur tendance récidivante. Ils prennent parfois un aspect papillomateux, "en chevelu" ou hyperkératosique.

Les adénopathies ont été trop souvent décrites pour rappeler leurs caractères. Leur fréquence est voisine de celles observées au cours du cancer de la langue, mais le fait le plus important est la relative fréquence ces adénopathies sous-maxillaires bilatérales.

LES ÉPITHÉLIOMAS DU MAXILLAIRE INFÉRIEUR

Nous avons déjà précisé que nous éliminerions les épithéliomas métastatiques; les épithéliomas "primitifs" sont rares, leur fréquence est difficile à juger, car les statistiques groupent bien souvent des tumeurs de voisinage propagées à l'os. Ils naissent de la muqueuse gingivale; ils paraissent se développer beaucoup plus rarement au dépens des reliquats de la



fig. 6 — Forme térébrante — destruction de la branche horizontale — fracture spontanée.

lame dentaire ou au cours de l'évolution des adamantinomes.

Nous insisterons peu sur les types cliniques semblables à ceux des autres cancers: la forme ulcéro-végétante est assez rare, ce n'est qu'à son début qu'elle s'observe sans retentissement dentaire; elle siège alors plus volontiers sur la gencive vestibulaire et s'étend bientôt en arceau pour intéresser la muqueuse de la face interne. Selon son affinité pour l'os, elle peut le respecter et s'étendre aux régions voisines ou le détruire. Ce sont les formes ostéolytiques ou térébrantes. Les formes de surface à début gingival sont rares. Ce sont les formes ostéolytiques et térébrantes qui sont les plus typiques des épithéliomas mandibulaires.

Les formes ostéolytiques sont fréquentes. Ce sont souvent des formes bourgeonnantes. La tumeur occupe un segment du rempart alvéolaire et s'étend sur ses deux faces; les dents émergent des bourgeons néoplasiques, elles sont très mobiles, non seulement dans le sens latéral, mais aussi en direction axiale. La mobilité des dents qui bordent la tumeur donne une appréciation de l'extension du néoplasme.

Ce sont les radiographies du maxillaire qu'il faut étudier.

Lorsque les dents sont présentes, elles paraissent suspendues dans une perte de substance osseuse, dont la courbe est plus ou moins étalée. Ce sont les petits films intra-buccaux ou les clichés en agrandis-

sement qui précisent bien l'érosion irrégulière du contour. En dehors de cette perte de substance ne laissant subsister aucun reliquat osseux, la trame osseuse est normale.

À la limite antérieure ou postérieure de cette image, les dents en bordure de cette cuvette ne sont plus soutenues que par une partie de l'alvéole, le reste de la structure alvéolaire a disparu.

Quand ces pertes de substances sont importantes, elles peuvent composer des images pseudo-kystiques; là encore, la destruction des tissus de soutien de la dent prend toute sa valeur. Dans les grandes destructions, il est sage de rechercher cliniquement et radiologiquement une fracture spontanée.

Lorsque les dents sont absentes, ces formes pseudo-kystiques peuvent être trompeuses, si on ne prend garde de laisser aux constatations cliniques toute leur valeur. Encore une fois, en cas de doute, la biopsie évitera des manoeuvres fâcheuses.

L'évolution des formes ostéolytiques est souvent rapide, elle nous a paru comporter un plus mauvais pronostic.

Les formes térébrantes sont rares si on attribue ce terme exclusivement aux épithéliomas à évolution longtemps intramandibulaire, donnant des images radiologiques si bien décrites par LEMAITRE et RUPPE.

Ces tumeurs dont les signes de début sont trompeurs, sont souvent de "fausses pyorrhées": la mobilité récente des dents s'aggrave peu à peu, aboutissant à la chute spontanée ou à l'avulsion réclamée par le malade. Le praticien s'aperçoit parfois que la dent extraite possède un petit débris tumoral appendu à l'apex; si les caractères mêmes de ce bourgeon n'attirent pas l'attention, il est étiqueté granulome ou kyste et pourtant l'examen histologique révélerait la présence d'un épithélioma. Ce sont parfois des complications post-opératoires qui conduisent au diagnostic: une hémorragie récidivante ou des fongosités suspectes qui bourgeonnent par l'orifice alvéolaire.

Chez d'autres malades, une ostéite subaigüe s'installe insidieusement. Elle dé-

bute fréquemment dans la région molaire, une dent devient douloureuse, du pus se fait jour le long de la dent ou après son extraction; devant cette suppuration, on n'est pas surpris de constater une certaine mobilité des dents voisines, d'autant que de petits séquestres peuvent s'éliminer par l'alvéole de la dent extraite et même une anesthésie mentonnière précoce peut augmenter la confusion, si on ne remarque la bénignité des signes généraux (rarement plus de 38°), l'âge du malade, etc. Malheureusement, ce n'est parfois qu'après la prescription d'antibiotiques, un ou plusieurs curettages, que la progression des lésions ou même une fracture pathologique font pratiquer l'examen histologique des bourgeons pathologiques.

Il est rare que des névralgies du nerf dentaire amènent le malade à consulter; ce sont plus souvent des hypoesthésies ou des anesthésies labio-mentonnières qui sont notées, encore ces derniers symptômes, lorsqu'ils sont isolés, révèlent en général une métastase d'un épithélioma glandulaire plutôt qu'un épithélioma primitif.

A une phase plus tardive, la mobilité des dents, la tuméfaction des tables osseuses, l'anesthésie du territoire du nerf dentaire, sont les signes essentiels de la maladie. Au niveau de l'alvéole déshabité, des bourgeons néoplasiques tapissent les parois osseuses et envahissent parfois la muqueuse avoisinante. Dès ce stade, il faut rechercher une fracture spontanée, bien plus fréquente qu'elle ne paraît être décrite. Sa découverte perd son intérêt, lorsque les tables osseuses qui ont contenu cet épithélioma ont été térébrées; la palpation perçoit alors une tumeur qui s'étale souvent à la face externe du maxillaire, autour de l'orifice de sortie, au lieu d'envahir la peau. Il est assez remarquable de voir malgré la rupture d'une corticale la tumeur se propager encore davantage dans la mandibule que dans les tissus mous.

Nous insisterons maintenant sur les difficultés de la biopsie et sur l'interprétation des images radiologiques.

Au début, la biopsie faite au bord de

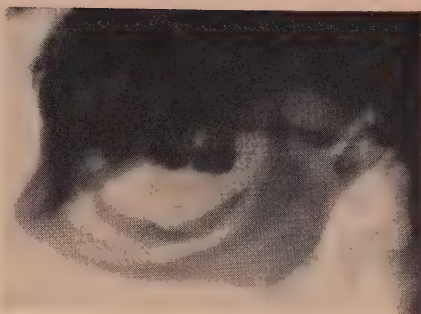


fig. 7.—Séquestre d'électro-nécrose en place.

l'alvéole déshabité, ne pourra fournir que des renseignements aggravant l'erreur qui a failli être commise cliniquement, car on ne prélève que des tissus inflammatoires. C'est dans le fond de l'alvéole que l'on doit rechercher les bourgeons néoplasiques et dans une zone aussi peu remaniée que possible par l'infection secondaire.

La radiographie peut fournir au clinicien des renseignements de valeur très variable:

Tantôt, l'image évoque immédiatement le néoplasme: au milieu d'une zone de raréfaction diffuse, l'os paraît avoir un aspect poreux, comme perforé de nombreuses cavités. RUPPE lui a consacré le nom d'aspect "mité". Autour de cette image principale, se voit une région plus dense parsemée de travées radio-claires formant de véritables digitations qui traduisent les zones d'accroissement de la tumeur. Ces destructions frappent même les parties les plus résistantes de l'os, comme le bord basilaire et plus tard réalisent des images "en dentelle", lorsqu'il ne reste plus guère d'os sain.—Mais, il n'est pas toujours possible de constater des images aussi typiques et ce n'est parfois qu'une raréfaction diffuse qui ne permet pas de conclure.

Il est remarquable que les dents soient rarement atteintes par ce processus térébrant. Une seule fois nous avons assisté à des destructions radiculaires: certaines dents avaient leurs racines sectionnées ou perforées.

Les adénopathies dépendent du siège et du type de la tumeur. Les formes térébrantes seraient peu lymphophiles; elles nous ont paru s'accompagner parfois d'une masse ganglionnaire unique fixée au maxillaire dans la région sous-angulaire. Les formes ulcéro-végétantes seraient celles qui provoqueraient plus précocement une adénopathie.

Les épithéliomas au cours de l'évolution des améloblastomes. Chaque année voit augmenter le nombre de leurs observations et leur fréquence, elle est 10% dans notre statistique sur 41 cas.

Traitement

Les épithéliomas du plancher buccal et du maxillaire inférieur ont toujours posé un problème thérapeutique; on peut en effet schématiser deux éventualités.

1° L'os n'est pas atteint, mais, constitue un obstacle à la chirurgie et aux RX;

2° L'os est envahi, la seule solution est chirurgicale, mais le chirurgien devra compenser les désordres fonctionnels entraînés par les résections.

A l'inverse des épithéliomas de la langue, nous pensons que ces cancers sont une mauvaise indication de la curiethérapie et nous n'envisagerons que les moyens chirurgicaux.

ÉLECTROCHIRURGIE

L'électrochirurgie est une méthode dont toutes les possibilités n'ont sans doute pas été épuisées. Nous avons repris en 1938 les travaux de GERNEZ, MOULONQUET et MALLET, et en 1948, nous avons codifié la technique et apporté les résultats de nos dix premières années.

La diathermo-coagulation que nous aurons seule en vue, n'a jamais suscité l'enthousiasme des chirurgiens; elle n'est pas une méthode brillante; elle n'aboutit pas à la présentation d'une pièce opératoire imposante par son volume; ses buts sont plus modestes: elle ne vise qu'à la destruction sur place de la région malade. Les deux grands reproches qu'il est possible de faire à cette technique sont la difficulté de contrôler les limites de la

destruction et les risques d'hémorragie au moment de la chute des escarres.

Dans un rapport au XI^e Congrès Français de Stomatologie, nous avons montré qu'il était possible de conduire une électrocoagulation, d'en faire une intervention anatomique, de prévoir ses suites et que les risques post-opératoires pouvaient être évités. Les principes de la technique opératoire sont les suivants: l'électrocoagulation doit être menée sous le contrôle de la vue et ne pas être abandonnée aux hasards de la résistance tissulaire et de l'intensité utilisée. Elle doit être faite plan par plan et non pas à l'aveugle, en craignant la destruction d'organes essentiels; chaque plan détruit est supprimé à la curette ou aux ciseaux courbes sans jamais provoquer d'hémorragie. Les tissus coagulés sont gris ou blancs, mais leur structure est conservée; la tumeur se distingue parfaitement des tissus sains; les différents plans musculaires, le canal de Wharton, le nerf lingual, . . . sont faciles à identifier. Chaque plan est supprimé sous le contrôle visuel et les infiltrations tumorales entre les fibres musculaires sont faciles à suivre. Mais, il est nécessaire pour cela de ne jamais carboniser les tissus. Il faut donc utiliser des électrodes à grande surface, ne jamais provoquer d'étincelage et ne pas atteindre la dessiccation complète des tissus lorsque la coagulation est obtenue.

L'intervention procède par à-coups et l'opérateur connaît rapidement l'étendue de la destruction provoquée par l'appareil utilisé avec une électrode et un réglage déterminé. Il est donc capable de conduire anatomiquement la destruction comme il pourrait le faire au cours d'une exérèse.

Ces principes applicables à l'électrocoagulation des parties molles ne sont pas valables pour l'os. Il est nécessaire que celui-ci soit préalablement dénudé pour provoquer sa nécrose, mais elle devient alors possible à la demande. Toutes les variétés de résections sont possibles, même celles qui ont la forme d'une tranche, prise dans l'épaisseur de l'os, détachant la table interne du maxillaire, par exemple.



fig. 8 — Séquestres d'électro-nécrose.

Les nécroses partielles conservent la continuité osseuse; elles peuvent ne ressembler qu'une mince baguette basilaire après avoir mortifié toute l'épaisseur de l'os. Elles peuvent, au contraire, n'emporter qu'une des tables osseuses ou la portion alvéolaire beaucoup plus facilement que les instruments tranchants.

Les nécroses totales, interruptrices ont l'avantage d'être des résections retardées qui ne diffèrent des précédentes que par la durée et l'étendue de l'application du courant diathermique.

L'os nécrosé reste en place et joue le rôle de tuteur en attendant son élimination entre le 40° et le 60° jour, parfois plus tardivement.

Ces interventions sont bien supportées et ont pu être pratiquées chez des sujets âgés de plus de 80 ans.

INTERVENTIONS COMBINÉES

Elles sont connues de longue date; MORESTIN les décrivit autrefois en France à une période où l'acte opératoire était loin d'avoir la sécurité actuelle. Les progrès de l'anesthésie et de la réanimation ont permis de réduire considérablement la mortalité post-opératoire. Le but est d'enlever en un bloc la lésion initiale et les ganglions; ce sont selon les auteurs les "commandos" du Memorial Hospital, les interventions combinées ou en monobloc. Mais, il ne faut pas dissimuler que ces interventions, pour être bien

tolérées, nécessitent la perfection des soins per et post-opératoires, la trachéotomie temporaire et l'alimentation par sonde oesophagienne pendant quelques jours; malgré tout la mortalité est plus grande que dans les interventions en deux temps.

Nous avons toujours gardé le principe de la destruction primitive de la tumeur par diathermocoagulation; nous y trouvons plusieurs avantages: la suppression des hémorragies en nappe provoquées par la tumeur, peut-être l'intérêt des actions biologiques des courants de haute fréquence, mais, surtout le fait de bien délimiter la zone pathologique endo-buccale. C'est là, un problème capital pour assurer le succès de cette chirurgie. Dans les derniers temps opératoires, la dissection peut être malaisée en position couchée du fait du suintement sanguin; les repères donnés par l'escarre facilitent beaucoup l'exécution correcte de l'exérèse. Nous procédons de la façon suivante: en profitant de l'anesthésie au penthotal du début, nous faisons par voie buccale l'électrocoagulation de la tumeur. L'anesthésie est alors poursuivie au gré de l'anesthésiste; après évidemment ganglionnaire, la résection du maxillaire emporte bien souvent les loges musculaires voisines.

Il se pose alors un problème de réparation: son intérêt est fonctionnel, plastique et même vital dans toutes les résections antérieures. Certes, il n'est pas indispensable de procéder immédiatement à la reconstitution et, pendant des années, nous nous sommes bornés à un appareillage de contention post-opératoire du fragment restant. L'immobilisation dure plusieurs semaines et même plusieurs mois. Une prothèse-guide reste nécessaire pendant longtemps. L'intérêt de la reconstitution immédiate — devenue possible grâce aux antibiotiques — est donc: de permettre un rétablissement rapide des différentes fonctions, d'abréger les suites opératoires, de pallier aux séquelles esthétiques.

Deux moyens, la greffe immédiate et la prothèse incluse de remplacement. Rien ne vaut certainement une greffe, mais, ses chances de succès sont compromises par les risques d'infection secondaire; elle



fig. 9 — Reconstitution immédiate de la mandibule par attelle en acryl armé.

oblige à un blocage inter-maxillaire prolongé. La reconstitution immédiate par une mandibule en acrylique connaît les mêmes difficultés quant à son enfouissement, mais, elle a l'avantage de procurer un résultat immédiat: le rétablissement de la continuité de l'arc mandibulaire et de permettre la reconstitution des sangles musculaires, des attaches de la langue, et du système hyoïdien. Elle permet de ce fait le rétablissement presque immédiat de la perméabilité respiratoire et de la déglutition. L'oxygénation per et post-opératoire de ces opérés est fondamentale, si les antibiotiques et les perfusions ont apporté un grand progrès, la restauration immédiate de la continuité mandibulaire paraît à notre sens avoir fourni un complément appréciable. Les suites opératoires et le délai d'hospitalisation sont abrégés, les avantages cosmétiques et psychiques ne sont pas négligeables.

Ces inclusions ne sont pas toujours tolérées, mais il est alors possible de procéder à une greffe osseuse. Celle-ci se fait dans de meilleures conditions car le plan muqueux est cicatrisé et il est moins regrettable de voir s'éliminer une prothèse qu'une greffe iliaque.

Le traitement à but curatif des adénopathies est chirurgical. Le mode d'intervention est trop classique pour qu'il soit besoin de le préciser. Les acquisitions récentes sont la conservation de la branche inférieure du facial et celle du nerf spinal chaque fois que possible.

LES RÉSULTATS

Quels résultats peut-on attendre du traitement de ces épithéliomas? Nous vous présentons une statistique personnelle de plus de 200 observations dont nous ne retiendrons que 115 malades opérés de 1939 à 1953 et dont les guérisons datent de cinq ans au moins. La grande majorité a subi une électrocoagulation de la lésion buccale. Le traitement des ganglions fut chirurgical quand il fut possible ou accepté par le malade.

Nos malades sont répartis en quatre groupes:

Groupe I. — Lésion limitée au plancher buccal

Groupe II. — Lésion propagée à la langue

Groupe III. — Lésion propagée au maxillaire

Groupe IV. — Lésion propagée à la langue et au maxillaire, parfois à la lèvre ou à la joue.

RÉPARTITION SELON L'ÉTENDUE DE LA LÉSION

Groupe I	Groupe II	Groupe III	Groupe IV	Total
23	15	30	47	115
20%	13%	26%	40%	

GUÉRISONS DE PLUS DE CINQ ANS

traités	sans nouvelles	décédés	guéris + 5 ans	%
115	17	57	41	35.6

POURCENTAGE DE GUÉRISONS SELON L'ÉTENDUE DE LA LÉSION

	traités	sans nouvelles	décédés	guéris + 5 ans	%
Groupe I	23	4	6	13	56.4
Groupe II	15	2	9	4	26.6
Groupe III	30	3	12	15	50
Groupe IV	47	8	30	9	19
Total	115	17	57	41	35.6

Nous avons tenu à connaître la valeur des guérisons obtenues au delà de cinq ans; parmi les malades comptés comme

guéris, 2 étaient susceptibles d'avoir dépassé la dixième année, le tableau suivant condense les résultats:

MALADES GUÉRIS 5 ANS — POURCENTAGE DE GUÉRISONS APRÈS 10 ANS

guéris + de 5 ans	sans nouvelles	décédés	guéris + de 10 ans	%
21	5	4	12	57

L'étude de ces différents tableaux permet de remarquer la grande proportion de malades présentant des tumeurs étendues (40% du total); elles intéressent le plancher, le maxillaire et la langue; elles ont parfois débordé sur la lèvre ou la joue ou en arrière sur le pilier du voile. Il n'est donc pas surprenant que ce soit parmi les malades du groupe IV que la mortalité soit la plus élevée.

Le pourcentage est bien meilleur pour le groupe III que pour le groupe II, ce qui prouve la gravité de l'extension à la langue; elle tient non seulement à la diffusion dans les masses musculaires, mais à la fréquente sévérité des métastases cervicales.

L'intérêt du dépistage précoce est évident, même en tenant compte de la malignité propre de certains cancers. L'envahissement limité au maxillaire n'est pas toujours un facteur d'aggravation; nous reviendrons sur la qualité des résultats obtenus dans ce groupe de malades.

S'il ne survient pas de nouvelle évolution dans les deux ans qui suivent le traitement, la survie a beaucoup de chances d'être prolongée; cependant les malades sont exposés au danger d'une autre localisation néoplasique. Parmi les malades comptés comme décédés dans les cinq ans, cinq, bien que guéris de la lésion buccale, sont morts d'un cancer de l'oesophage (2), d'un cancer du larynx (1), d'un cancer du pharynx (1). Le dernier est revenu au cours de la cinquième année porteur d'un cancer de la langue très éloigné du siège du premier cancer. Ce risque persiste au delà de cinq ans, parmi les 4 malades décédés entre cinq et dix ans, un est mort d'une sténose oesophagienne à la huitième année, un d'une récidive au bout de neuf ans, une d'une évolution ganglionnaire, le quatrième de cause inconnue. Le second cancer ou la récidive ont très souvent une malignité bien plus grande et une évolution rapide.

Cette statistique est comparable à celles des résultats obtenus dans différents pays. Dans le groupe I, les résultats sont équivalents à ceux de HAYES MARTIN, Sir STANFORD CADE et DARGENT. Ces auteurs notent également la plus grande gravité de l'extension à la langue qu'au maxillaire; cependant les résultats d'ensemble nous sont plus favorables: 25,7% HAYES MARTIN, 22% DARGENT. Nous pensons que la différence s'explique par le pourcentage de guérisons des malades du groupe III qui nous est favorable. Or, nos 115 malades furent presque tous traités par électrocoagulation de la tumeur buccale et il est possible que l'électrochirurgie soit le procédé le mieux adapté pour lutter contre la propagation osseuse.

Il est très remarquable de noter le nombre des survies après 10 ans, 59% des malades restés guéris au bout de cinq ans et 19% du chiffre initial (63); DARGENT

donne un taux de 6%, 8 survies sur 123 cas. On peut se demander si les effets biologiques des courants de haute fréquence qui se produisent pendant toute la durée de l'intervention n'ont pas finalement un intérêt dans cette technique. Nous avons déjà eu l'impression, il y a dix ans, que la longueur d'onde utilisée était susceptible de jouer un rôle important dans les résultats obtenus. Ce n'est là qu'une hypothèse qui avait paru se vérifier en 1947 quand nous avions abaissé la longueur utilisée de 350 mètres à 220 mètres: des récidives dès la chute de l'escarre, des évolutions ganglionnaires précipitées furent observées. Si depuis cinq ans nous avons étendu les indications des interventions combinées, l'électrochirurgie conserve pour nous une place de choix dans le traitement de ces tumeurs.

La SOCIÉTÉ DE RECHERCHE DENTAIRE DE MONTRÉAL

A la dernière assemblée de la Société, en avril 1959, le Dr Lyman Francis de l'Université McGill, fut élu président et le Dr William B. Donohue, de l'Université de Montréal, secrétaire.

La première assemblée de l'année académique 1959-1960 aura lieu jeudi, le premier octobre à 7.30 h. du soir, à la Faculté de chirurgie dentaire de l'Université de Montréal. Le conférencier sera le Dr Claude Baril du service d'orthodontie, division postgraduée, de l'Université de Montréal, qui présentera ses résultats sur "l'analyse électromyographique des muscles temporaux et faciaux chez les sujets suçant leurs pouces ou leurs doigts."

Le Dr Jean-Paul Lussier donnera un bref rapport de la "Gordon Research Conference", et le Dr Donohue résumera les points saillants de la conférence de l'International Academy of Oral Pathology.

Nouvelles de l'Association

Comprimés de fluor

Le Comité des Recherches, après en avoir été prié par différents organismes, a publié une déclaration au sujet des comprimés de fluor. Cette déclaration, qui a été soumise au Conseil des Gouverneurs pour approbation, soutient qu'il n'y a pas eu encore suffisamment de recherches sur cette question pour établir la valeur de ces comprimés dans le but de prévenir en partie la carie dentaire. On peut lire ci-après cette déclaration qui énumère les dangers que comporte l'emploi de ces comprimés.

Comprimés de fluor

Déclaration au sujet des comprimés ou de capsules de fluor pour la prévention partielle de la carie dentaire par le Comité des Recherches de l'Association dentaire canadienne, mai 1959.

L'absorption de comprimés ou de capsules de fluor dans le but d'abaisser la fréquence de la carie dentaire n'a pas encore été étudiée suffisamment pour pouvoir juger de sa valeur. Cette façon de faire diffère de beaucoup de la fluoration des eaux de consommation; c'est pourquoi on ne peut s'attendre à ce que l'absorption de comprimés donne des résultats identiques.

Il y a certains dangers, contrairement à la fluoration de l'eau, à prendre des comprimés de fluor. Le fait de garder à la maison des pilules de fluor est dangereux, car le fluor est un poison vif. On peut de plus, en prendre des doses trop considérables; la quantité idéale pour chaque enfant varie avec son âge et avec la proportion de fluor mêlée à l'eau consommée à la maison. L'ordonnance pour des comprimés de fluor devrait être sous le contrôle du médecin ou du dentiste, après s'être rendu compte de la teneur de fluor dans l'eau de la région et s'être assuré de la surveillance constante des parents pour plusieurs années. Les dentistes et les médecins peuvent obtenir des renseignements précis sur la posologie des comprimés de fluor en s'adressant au secrétaire de l'Association dentaire canadienne.

On ne doit pas croire que la consommation de comprimés ou de capsules contenant du fluor sous forme concentrée peut remplacer la fluoration de l'eau des aqueducs; cette mesure d'hygiène publique s'est avérée un moyen sûr, effectif, contrôlable et peu dispendieux de réduire la carie dentaire; elle a, de plus, été recommandée officiellement par l'Association dentaire canadienne.

Editorial: "Esprit altruiste"

"Nous avouons une grande admiration, quoique teintée parfois d'insécurité, pour les dentistes et leur vocation. Ils peinent durant de longues heures à un travail souvent ingrat. On se moque d'eux quelquefois et leur réputation est souvent amoindrie par des caricatures comiques qui montrent l'angoisse ressentie par ceux qui sont assis dans leurs salles d'attente.

Au cours de leurs congrès, comme le cinquante-huitième congrès annuel de l'Association dentaire canadienne qui se termine à Halifax, aujourd'hui, les dentistes font sans cesse montre d'un esprit d'altruisme, désireux de responsabilités plus grandes: il faut les en féliciter!

Ils mènent, contre une opposition considérable à certains endroits, une croisade infatigable en faveur de la fluoration et cette mesure, à la longue, abaissera à coup sûr leurs revenus. Ils invitent les jeunes gens à grossir leurs rangs tandis que d'autres groupements professionnels cherchent, pour des motifs égoïstes, à diminuer leur nombre.

Le public continue de tenir les dentistes en grande estime. Les dentistes de Nouvelle-Ecosse mettront à la disposition du public, le mois prochain, un système de post-paiements, comme il en existe en Ontario, en Saskatchewan et en Alberta. Ce système permettra aux personnes qui doivent se faire traiter, mais qui remettent à plus tard pour des raisons pécuniaires, de le faire dès maintenant, avant que leur état ne s'aggrave. En un mot, les dentistes, ici et là, travaillent sans relâche pour créer des circonstances qui logiquement devraient leur nuire énormément au point de vue économique.

Ils persistent néanmoins dans leurs projets, parce qu'une meilleure santé dentaire est une question d'intérêt général."

The Halifax Chronicle-Herald
Mercredi, le 24 juin 1959

Kindersley, en Saskatchewan, adopte la fluoration

La ville de Kindersley, en Saskatchewan, ayant une population de 2,570 personnes, a commencé à fluorer son eau en février 1959. La Saskatchewan est maintenant la province qui a le plus grand nombre de villes qui utilisent la fluoration.

Numéro du Journal demandé

La bibliothèque de l'A.D.C. a besoin de copies de la livraison de janvier 1959 du Journal de l'Association dentaire canadienne et aimerait en recevoir de ceux qui n'en ont plus besoin.

PAGES EDITORIALES

Une question de principe

Certains dentistes, quand s'élève entre eux une discussion sur le sort de la prothèse de l'avenir, affichent parfois une attitude qui cadre mal avec les principes qui doivent guider les agissements d'un groupe professionnel.

Quand, dans quelques milieux, on croit perdue d'avance la lutte que livrent les organismes officiels pour le maintien des droits des dentistes en matière de prothèse, on comprend mal ou on ne saisit pas toute l'importance du problème.

Plusieurs confrères croient qu'inévitablement la prothèse deviendra un domaine confié aux techniciens et que cette nouvelle situation les forcera eux-mêmes à s'occuper davantage de dentisterie préventive.

D'autres invoquent tout le travail et tout l'argent consacré à la répression de l'exercice illégal, en pure perte, disent-ils; ces efforts et ces sommes, selon eux, pourraient être consacrés à d'autres buts plus constructifs.

On prétend ailleurs que la prothèse est un art — non une science — dont la plus grande partie est faite de mécanique et qui est indigne d'un diplômé universitaire; après tout, déclarent ces confrères, le technicien n'exécute-t-il pas de la plus grande quantité du travail de prothèse, depuis que le dentiste a abondonné le montage et la confection des appareils?

D'autres, à cause des difficultés suscitées par la confection des pièces, souhaitent s'en "débarrasser", en la confiant entièrement aux techniciens.

Cet esprit défaitiste et cette réaction toute négative d'un grand nombre de dentistes encouragent les techniciens et ces derniers-nés — les "denturistes" — à redoubler d'efforts auprès des législateurs pour obtenir des privilèges qui leur ont été refusés jusqu'à maintenant.

On invoque plusieurs autres raisons pour justifier un désintéressement incompréhensible, mais le motif qu'on entend le plus souvent des lèvres de dentistes est qu'après tout "il ne s'agit que de dentiers".

Rien n'est plus faux. C'est une question de principe. L'A.D.C. a énoncé ce principe dans une déclaration de politique faite en 1958 au sujet du personnel auxiliaire (Délibérations 1958, p. 30). Elle se lit comme suit:

"L'intérêt du public exige que son bien-être incombe à un groupement d'individus dont la formation, le contrôle et l'expérience convergent vers le maintien de sa santé, non seulement dentaire, mais toute entière. On ne servira

pas le meilleur intérêt du public en divisant la responsabilité de la profession dentaire; en ce faisant, on ne fera qu'abaisser les standards des services prodigués au patient."

Il est à peine nécessaire de mentionner que, si ce principe n'est pas respecté, les autres groupements auxiliaires, par exemple, les hygiénistes dentaires, profiteront des circonstances pour se séparer de la profession et agir à leur guise. Ce principe est le même pour les autres services de santé. La profession dentaire ne doit pas céder un pouce sur la question de principe, mais elle doit, par contre, trouver des moyens de solutionner le problème tout en sauvegardant ces principes.

Ces moyens doivent se centrer sur le coût des services de prothèse et sur la dissémination des services dentaires dans les régions urbaines, puisque ces deux facteurs sont les deux principaux chevaux de bataille des techniciens et des "denturistes" auprès des législateurs.

GERARD de MONTIGNY.

Nouvelles du Corps Dentaire Royal Canadien

Présentés à la reine

En reconnaissance de leur nomination au poste de chirurgien-dentiste honoraire de la reine, le brigadier K. M. Baird, directeur général des Services dentaires, et le colonel G. B. Shillington, sous-directeur général des Services dentaire, accompagnés de leurs épouses, ont été présentés à la reine et au prince Philip, le 1er juillet, à la résidence du gouverneur général.

Promu major

Le capitaine C. Brown vient d'être promu major à compter du 23 juin 1959.

Le major Brown est né à Trinity, Terre-Neuve. Il fit ses études à l'Université d'Acadie et à l'Université McGill où il obtint son diplôme de chirurgien-dentiste en 1950. Il s'inscrit dans le Corps dentaire en août 1952 au grade de capitaine et sert dans diverses unités de la région militaire des Prairies. Il se trouve actuellement à la station aérienne de Saskatoon. Le major Brown est marié et père de deux enfants.

Aux études

Le lieutenant-colonel J. G. Butler, direction des Services dentaires, suit à l'heure actuelle un cours de quatre mois en art dentaire au "Walter Reed Army Medical Centre", à Washington.

Retour d'outre-mer

Le capitaine R. J. Bryant, de Dauphin (Man.) est revenu récemment au Canada après avoir servi pendant trois ans à la 35e unité dentaire de campagne, en France. Il a été affecté à la station aérienne de Portage-la-Prairie (Man.).

Camp d'été de la Milice

Du 29 juin au 4 juillet, 52 officiers prove-

nant d'unités de la Milice du Corps dentaire ont fréquenté le camp annuel d'été, tenu cette année à l'école du Corps dentaire de Camp Borden.

A la lumière du nouveau rôle de la Milice dans les opérations de survivance nationale, l'instruction a accordé une plus grande importance au traitement de très grands nombres de blessés et s'est arrêtée particulièrement sur le rôle du dentiste dans les opérations de survivance nationale. Le cours a aussi touché divers sujets militaires, y compris les techniques du Corps dentaire et l'utilisation de la nouvelle clinique mobile.

On est d'avis que ce cours a mérité l'approbation de tous les officiers. Malgré leur programme d'études bien rempli, ceux-ci ont trouvé le temps de se distraire. Ils ont assisté à un dîner et à une soirée sociale organisés par les officiers de la Milice au Mess du quartier général du camp.

Voici les officiers du Corps dentaire qui ont suivi le cours en question:

Le colonel J. E. Merritt, sous-directeur des Services dentaires, région militaire de l'Est; le colonel T. J. S. Cooke, sous-directeur des Services dentaires, région militaire des Prairies; le lieutenant-colonel G. C. MacLeod, commandant de la 50e unité dentaire, de Halifax; le lieutenant-colonel G. L. Ramsay, commandant de la 51e unité dentaire, de St-Jean (N.-B.); le lieutenant-colonel C. E. Woods, commandant de la 54e unité dentaire, d'Ottawa; le lieutenant-colonel A. J. Harris, commandant de la 55e unité dentaire, de London; le lieutenant-colonel A. Z. Henry, commandant de la 56e unité dentaire de Toronto; le lieutenant-colonel A. Mintz, commandant de la 58e unité dentaire, de Saskatoon; le lieutenant A. D. Fee, commandant de la 60e unité dentaire, d'Edmonton; le lieutenant-colonel F. K. Currie, commandant de la 61e unité dentaire, de Vancouver.

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The Acute Periodontal Abscess

J. R. TROTT, D.D.S., B.D.S. (Adelaide), Winnipeg, Manitoba*

An acute infection in the periodontal tissues often poses a problem for the busy dental practitioner. In the first place the patient is usually an emergency and has to be fitted in between other appointments. Secondly a correct diagnosis has to be made fairly quickly so that the right treatment can be given immediately. Whilst thirdly it must always be borne in mind that a serious systemic condition may first manifest itself in the periodont-

al tissues as an acute local infection. It is therefore of paramount importance to take a careful history of the complaint as well as a medical history. Although the clinical picture may be altered by local factors the diagnosis of most of the acute infections can often be made on the history.

The cause of many periodontal abscesses is often difficult to decide although there is usually a mixed infection of oral organisms (Ludwig, 1957). A severe localized throbbing pain over the previous 24 hours is usually indicative

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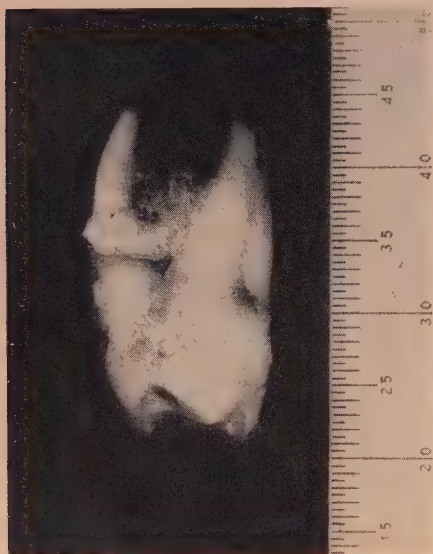


FIGURE 1

An acute periodontal abscess in the trifurcation of a maxillary first molar. The tooth was vital and there was no swelling, but it caused acute pain.

of pus forming under pressure. This of course may occur either in the pulp or periodontal tissues. It must be remembered that degeneration and subsequent necrosis of the pulp is a more common finding than a periodontal abscess, so as part of the examination the vitality of the teeth must be checked. Clinical examination usually shows a localized reddened soft swelling of the gingivae either buccally or lingually, rarely both. Since the area is so small it is usually impossible to elicit fluctuation. Swelling although common is not always necessary as it is possible for an acute abscess to form between the roots of an upper or lower molar tooth, cause acute pain, the tooth not be tender on percussion and still be vital (Fig. 1). Pain following biting or percussion is not a constant feature

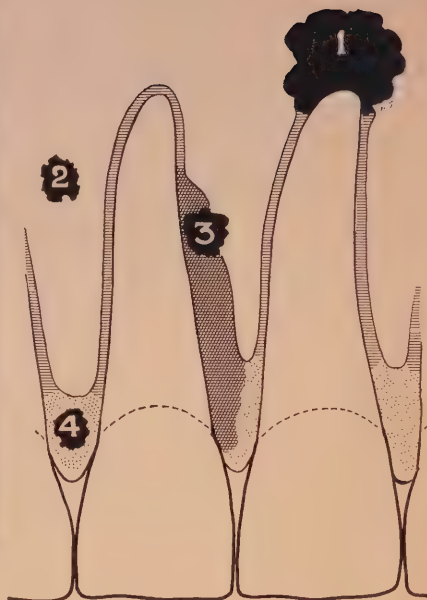


FIGURE 2

- (1) A periapical abscess
- (2) A lateral periodontal abscess not involving the gingival crevice.
- (3) A lateral periodontal abscess involving the gingival crevice and therefore forming a pocket.
- (4) A gingival abscess.

and this is probably related to the extent the abscess involves the soft tissues of the gingivae.

The prognosis of the tooth will depend first on the overall appraisal of the patient's mouth and secondly on the position of the abscess in the periodontal tissues and the subsequent course taken by the pus. It is not intended in this paper to consider the overall assessment of a patient's mouth but rather to consider the diagnosis and treatment of a localized periodontal abscess.

A periodontal abscess (see fig. 2) may be either:

- (1) Periapical
- (2) Lateral (not involving the gingival crevice)
- (3) Lateral (involving the gingival crevice)
- (4) Gingival

1. PERIAPICAL

The periapical abscess is the most common form of periodontal abscess and is usually due to the spread of infection from the root canal. The tooth is therefore non vital and this is an important diagnostic feature in differentiating this abscess from those which occur in the lateral periodontal tissues when the teeth are vital. The abscess is usually localized in the periapical region and the pus tracts the shortest distance either buccally or palatally through the bone into the attached gingival tissues and thereby causes the swelling which is seen clinically. On occasions however the pus will tract down the labial aspect of a tooth through the periodontal tissues and a sinus will be formed through the gingival crevice. When this happens there will be a pocket of 14 mms or more extending from the gingival margin up into the periapical lesion (Fig. 3). In the past when this occurs the prognosis for the tooth has been considered hopeless and it has been extracted.

A similar condition can develop around a permanent tooth which is in the process of erupting if there is a periapical abscess around a deciduous tooth, and it drains along the buccal aspect of the permanent tooth into the gingival crevice.

The prognosis in these cases is usually very good. The extraction of permanent anterior teeth invariably creates rather than solves the problem. In an intact arch and when the tooth involved shows only slight mobility an attempt should be made to retain the tooth.

Immediate treatment is therefore aimed at establishing drainage. This can be achieved by opening up the pulp chamber

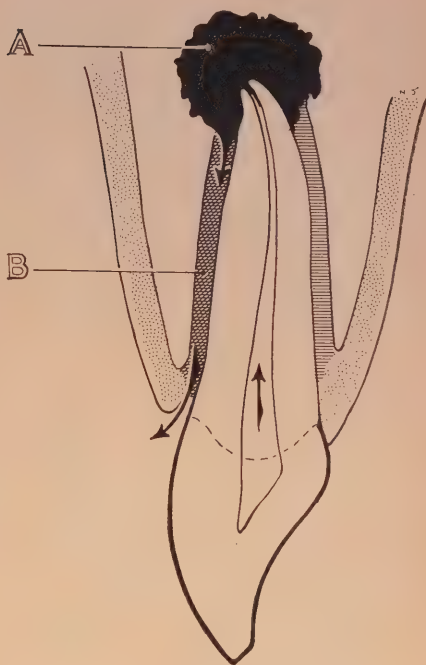


FIGURE 3

An acute periapical abscess at A drains through the buccal gingival crevice and causes an extensive pocket B.

and if necessary incising the soft tissue swelling. The latter is not necessary if the abscess is already draining through the gingival crevice.

The further treatment of the periapical abscess is in the field of endontics and is already well known. The treatment of a periapical abscess involving the gingival crevice is only an extension of the usual apicoectomy routine. Once the acute phase has become quiescent a root filling and apicoectomy can be planned. Usually a wide flap from the gingival margin (Fig. 4) is the approach to the apical area and the buccal root aspect of



FIGURE 4

The flap operation for treating a periapical abscess as in Fig. 3. A vertical incision CY is made and the interdental papillae detached at A and B. The flap is retracted to A', B' and C' to expose the apical area on the tooth involved and the buccal surface of the root. Curettage is then performed.

the tooth. This enables one to complete the root filling, apicoectomy the tooth and to carry out effective root curettage under open operation conditions. However, while healing and re-attachment of the gingival tissues is good there is often a slight amount of recession of the gingivae in the area where the abscess drained through the gingival crevice. If one is prepared to use the normal apicoectomy incision to approach the apical regions and then before closing the incision to carry out blind, a careful root curettage from the gingival crevice to the apical area then recession does not appear to be such a problem.

The question of whether one should use systemic antibiotic cover or not is controversial. If one operates at the right time and carefully there would not appear to be any particular reason for its use; however, if it is felt that antibiotic cover is

needed then a proper course of the right antibiotic over the right period of time should be given. It is probably more dangerous to use antibiotics inadequately than not at all.

When a periapical abscess from a deciduous tooth drains along the buccal aspect of its neighbouring permanent tooth then the extraction of the deciduous tooth is all that is required. Curettage is not necessary apparently; but hot saline mouth baths help considerably.

The hot saline mouth baths should be prescribed to the patient with careful instructions on how it should be done. As in the treatment of any abscess, heat, continuity, and frequency of application are the important points to remember. A tablespoonful of salt in a glass of water as warm as the patient can comfortably tolerate should be used. The hot saline is held over the abscess by the cheeks or

lips and not rinsed around the mouth. This should be repeated every 2 or 3 hours during the day if possible, for 48 hours.

2. LATERAL PERIODONTAL ABSCESS

(Not involving the gingival crevice)

These are probably the most uncommon type of periodontal abscess to occur. They are usually simple to treat, but are of interest from an aetiological and diagnostic point of view. The abscess is located in the lateral periodontal tissues anywhere from below the gingival crevice to the proximity of the apical tissues. There is no pocket formation and the teeth are vital. There is usually swelling of the attached gingivae followed by the formation of a sinus when the abscess drains. As might be expected if the abscess occurs quite suddenly and tracts into the soft tissues rapidly the patient may only notice a tender swelling, localized around one particular tooth. (Fig. 5). If however the abscess is confined in the bifurcation or trifurcation of the molar teeth then there will be an acute throbbing pain, the tooth will be tender to percussion and there may be no swelling or mobility. When this occurs and there is a restoration in the tooth it can be extremely difficult to differentiate an acute lateral periodontal abscess from an acute pulpitis, in the early stages. In the latter however degeneration and necrosis occurs rapidly and the tooth will not respond to vitality, whereas in the former the tooth will remain vital unless the abscess is close to the apical vessels. This abscess must therefore be differentiated from an acute periapical abscess by the testing for vitality of the teeth.

Clinically these abscesses can appear very similar to an acute apical abscess. The second important feature of this abscess is that there is no pocket formation. The formation of pockets must be carefully checked as an abscess may occur on one aspect of a tooth and the mouth or the opening to this may be through the gingival crevice on another aspect. These

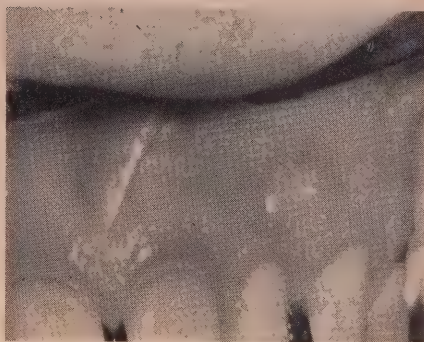


FIGURE 5

An acute periodontal abscess between the upper left lateral and cuspid not involving the gingival crevice.

are called "spiral pockets" and require to be treated differently from an abscess not involving the gingival crevice. The aetiology of these abscesses is intriguing. Cross (1954) wonders whether or not a number of these abscesses may have originated from a lateral periodontal cyst. Since both conditions are relatively uncommon it is very difficult to substantiate this idea one way or the other. The occurrence of these lesions in the lateral periodontal tissues would support the theory of James & Counsell (1927) and Weinman (1941) regarding the passage of toxins and perhaps bacteria from the gingival crevice through the lateral lymphatics rather than those in the periodontal membrane.

The treatment of these lesions is simple. If the abscess is not already draining then an adequate incision to obtain dependent drainage must be made, and hot salt-water mouth baths prescribed for 48 hours. If the abscess is already draining then the mouth baths only need be used. Once the acute phase has subsided a flap should be raised, not involving the gingival margin, and the intra bony area curetted clean of the chronically inflamed granulation tissue, the flap replaced sutured and left for seven days. Healing is usually uneventful.

THE LATERAL PERIODONTAL ABSCESS (Involving the gingival crevice)

This is the most common type of periodontal abscess and the most difficult to treat.

In this case an abscess arises in the lateral periodontal tissues and tracts down the periodontal membrane involving the gingival crevice, thus causing a pocket to be formed (Fig. 6). An acute abscess may form in such a situation—without any apparent pre-existing pathological area being present, or it may supervene in an already formed chronically inflamed pocket, where some bone loss has occurred (Fig. 7).

Diagnosis is not usually a problem in these cases. Swelling, and reddening of the gingivae and the formation or presence of a pocket are the most constant findings. The intensity of the pain, the amount of bone loss and mobility of the tooth will vary considerably from one case to another.

The best treatment to advise is often difficult as there are many factors to be considered, the most important being the patient's general health and the health of

the remainder of the mouth. If these are good and the tooth does not have too great a bone destruction or mobility then a conservative approach is justified. The success of treatment depends to some extent on whether the acute abscess has created a pocket or whether an abscess has supervened in an already existing chronically inflamed pocket. Although the treatment is the same in both cases the prognosis varies considerably being better in the former than the latter.

The immediate treatment is to obtain adequate drainage. If the opening to the pocket is wide and pus is already draining through the gingival crevice then the use of hot salt water mouth baths every few hours for 48 hours is all that is indicated. If drainage is not adequate then an incision over the greatest area of the abscess to obtain dependent drainage is needed. Once the acute inflammation has subsided the area should be thoroughly curetted (Pritchard, 1953) either blind or by the open flap operation. The degree of success will depend upon the amount of re-attachment of the deeper periodontal tissues. Although this has been a matter of debate for some years there is little doubt that some form of re-attachment



FIGURE 6

An acute periodontal abscess palatal upper left central. This involves the gingival crevice and a large pocket has been formed.

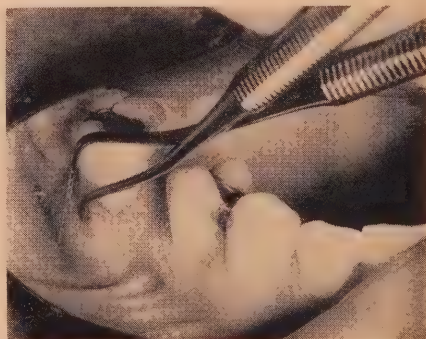


FIGURE 7

An acute periodontal abscess with pocket formation and a sinus around the lower right second molar.



FIGURE 8

A gingival abscess on the buccal gingivae of the upper left cuspid.

does occur clinically and that the acute periodontal abscess has been treated successfully.

GINGIVAL ABSCESS

Although this is not a common form of abscess it does occur and is usually due to trauma. Here there is a localized red-ened swelling of the marginal gingiva without the formation of a pocket (Figs. 8, 9). The swelling is painful and tender and arises rapidly. Treatment is by incision under a topical anaesthetic and hot, salt water mouth washes for 48 hours.

ACKNOWLEDGEMENTS

I am very grateful to the Department of Surgery, University of Manitoba and especially Miss Nancy Joy for doing the line drawings and also to Dr. B. O. A. Thomas of the University of Washington for the loan of figures 5, 7, and 8, and to Dr. J. Hoogstraten, Pathologist at the Children's Hospital, Winnipeg for the photomicrograph.



FIGURE 9

Photomicrograph of a healing gingival abscess showing central cavitation surrounded by granulation tissue.

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University of Manitoba

Effects of Diphenylhydantoin on Gingival

Histamine and Serotonin

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It has previously been shown⁽¹⁾ that following prolonged diphenylhydantoin administration in ferrets and dogs increased amounts of extractable histamine were detected in the gingiva in the course of the development of either gross or microscopic hyperplasia. In order to determine to what extent these changes were specific, it was of interest (a) to undertake a comparative study of changes in extractable gingival histamine, associated with the administrations of some related anti-epileptic agents — methylphenylhydantoin (mesantoin®) and phenobarbital sodium; and (b) to compare the gingival histamine changes with those occurring in other organs and tissues of the body under similar conditions. We have also extended our investigations to the influence of these drugs on changes in extractable serotonin, in both gingiva and brain tissue in similar types of experiments. Some observations concerning changes in histamine and serotonin in human gingival tissue are also reported.

METHODS

Dogs and ferrets were used in the first series of experiments. Each animal was kept in an individual cage and observed

for at least one week in the laboratory before any treatment was started. The animals were kept on a Purina Chow diet with water *ad lib.* The drug was administered with a small quantity of meat each morning before the remainder of the food for the day was placed in the cage. Total doses of the drugs varying from 40-200 mg. per day, were studied and the duration of administration was from 7 to 60 days in different groups of experiments. The amounts of tissue employed for the assays varied from 250-570 mg. The dogs were anesthetized with pentobarbital sodium (35 mg./kg.) intravenously and the mouth swabbed out with physiological saline before excising the gingival tissue.

The procedure employed for extraction and assay of histamine in these experiments was that described by Barsoum and Gaddum (1935). The assays were done on strips of guinea pig ileum (approximately one inch in length) placed in a 4 ml. bath containing atropinized Tyrode solution suitably aerated. Prior to testing the extracts standard responses of the preparation to known quantities of histamine were recorded at 2.0 minute intervals.

In the case of the serotonin the procedure of extraction and assay was that described by Dalglish (1953). The tissue was excised and weighed as in the histamine experiments, and the 'rat uterus'

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assay method used. In this method rats weighing between 116 and 200 grams were prepared by the subcutaneous injection of stilboestrol (0.05 mg.) on the day before the experiment. One horn of the freshly-removed uterus was then suspended in a 4 ml. bath kept at 30°C. As in the histamine assays, standard responses to known quantities of serotonin were recorded prior to testing the extracts. At the end of each experiment, either the antihistamine agent Promethazine, or the antiserotonin agent Lysergic Acid Diethyl Amide (LSD) was added to the bath just prior to testing the responses of both the extracts and to the standards, in order to confirm the presence of histamine and serotonin, respectively. In all cases both responses were blocked.

The Serotonin employed was 'Serotonin-Creatinine Complex', kindly supplied by the California Foundation for Biochemical Research, Los Angeles, California. Delysid (LSD 25), which is the d-lysergic acid diethylamide tartrate in ampoules was kindly supplied by Sandoz Ltd., Montreal.

COMPARATIVE CHANGES IN EXTRACTABLE HISTAMINE IN GINGIVA AND OTHER TISSUES

Figure 1A is an example of an assay of gingival extract obtained from a normal-

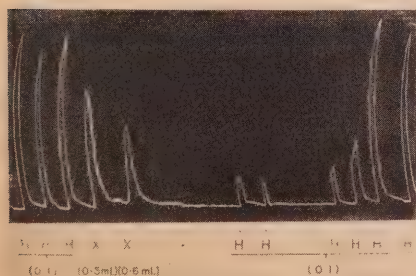


FIGURE 1A

Histamine assay on guinea pig ileum, showing effects of normal untreated dog gingival extract (X/0.5 ml.), (X/0.6 ml.) and response to 0.1 micrograms of histamine before and after.

al untreated control dog. In this and all succeeding records the initial responses show the contractions obtained from standard doses of histamine (H). Following these, in Fig. 1A are seen responses to two injections of 0.5 ml. and 0.6 ml. of normal gingival tissue extracts (X). These induced contractions less than those obtained from 0.1 mg. of histamine (H 0.1). The second response to the extract (even though a larger volume was tested) was less than the first.

The figure also shows that following the exposure of the ileum to these gingival extracts, for some time there was a decreased response to histamine (H 0.1). However, with repeated washings and repetitions there was a progressive restoration of the normal responsiveness of the gut to histamine. In all of the tests in which extracts of the normal gingival tissues were studied the initial response generally also developed somewhat more

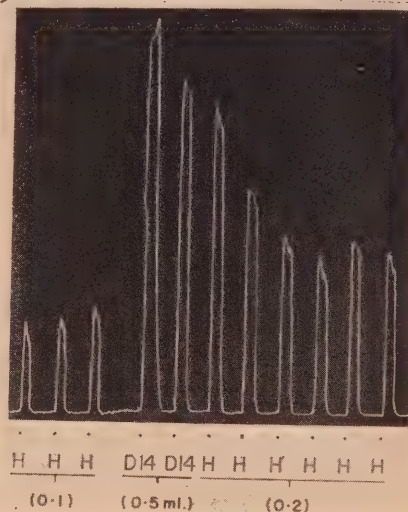


FIGURE 1B

Histamine assay on guinea pig ileum of extract prepared from a dog treated with dilantin for 14 days (D14) and showing potentiation of the effects of standard histamine doses (H/0.2).

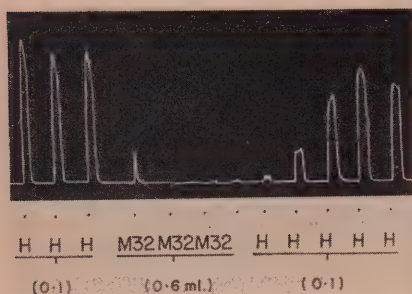


FIGURE 1C

Histamine assay on guinea pig ileum showing the effects of a mesantoin-fed dog gingival extract (M 32) and the responses to 0.1 microgram doses of standard histamine (H/0.1).

slowly than the response to added histamine, and was generally decreased on repeated testing. In many instances the effect was even completely abolished on repetition and concomitantly the control responses to histamine were similarly affected (See Fig. 5A).

Figure 1B shows an example of the results obtained from the gingiva of a dilantin-treated dog which had received 200 mg./day for 14 days. Following the initial standardization, the first test of the gingival extract (D 14) in a dose of 0.5 ml. led to the striking response shown. Repetition of the same dose led however to only a slightly lessened response. It can also be seen that following these tests of the extracts, the responses to the standard histamine (H 0.2) are greatly potentiated. This is in marked contrast to the diminished responses to histamine observed after testing extracts made from normal gingival tissue. (Fig. 1A).

Figure 1C shows an example of an assay of the extract (M/32) obtained from a dog maintained on mesantoin (100 mg./day orally for 32 days). As can be seen, after the histamine standardization (H 0.1), the initial injection of 0.6 ml. of the gingival extract (M/32-0.6 ml.) led to a slight response, while a second and third similar injection showed no effect. However, on repetition (5 tests) progressively

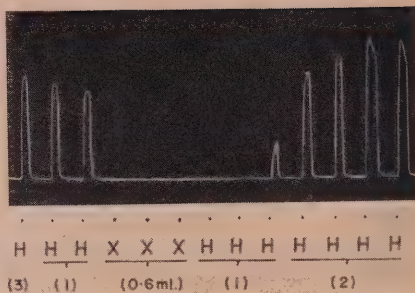


FIGURE 1D

Histamine assay on guinea pig ileum showing the effects of gingival extracts obtained from a phenobarbital-fed dog (X) and responses to successive test doses (1, 3 and 5 micrograms) of standard histamine (H/1, H/3, H/5).

increasing responses were observed. Even after such repetitions the original responsiveness of the gut was still not completely restored. Indeed, a further period of ten minutes was necessary to restore the gut to its normal responsiveness to histamine. These results are essentially similar to those previously seen with the use of normal gingival tissue extracts in contrast to those observed in extracts prepared after dilantin administration.

Figure 1D shows a typical example of a histamine assay using an extract obtained from the gingiva of a dog given phenobarbital sodium (100 mgms. daily for 36 days). As can be seen, three repeated tests of this extract (X 0.6 ml.) led to no response. Also at this time the ileum was completely unresponsive to the standard histamine (H 0.1—twice repeated), but progressive restoration of responsiveness was again observed as with normal gingival tissue extract (Fig. 1A), or with the extracts obtained following mesantoin (Fig. 1C). Similar results were obtained on four dogs. It is therefore concluded that neither mesantoin nor phenobarbital administration lead to any significant increase in extractable gingival histamine. In both instances however, as with normal gingival tissue extracts,

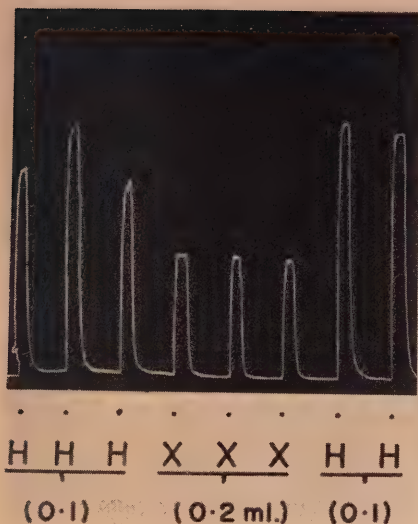


FIGURE 2A

Histamine assay on guinea pig ileum showing the effects of lung extract from normal control dog (X/0.2 ml.) and test doses of 0.1 micrograms of histamine (H/0.1) before and after.

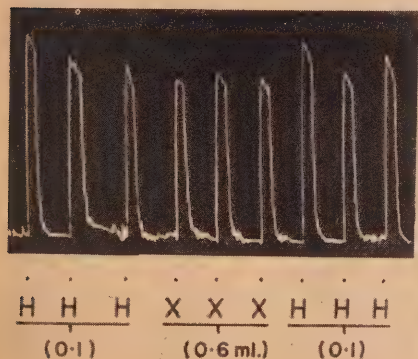


FIGURE 2B

Histamine assay on guinea pig ileum showing the effects of lung extracts obtained from a dilantin-fed dog (X/0.6 ml.) and responses to a 0.1 microgram of histamine (H/0.1) before and after.

there was clear evidence of the presence of some unknown histamine-antagonizing or anti-histamine substance in the gingiva. Whether these were increased concentrations of this substance in the presence of mesantoin or phenobarbital cannot be stated.

In the above experiments at the time of excising the gingiva, sections of lung and ileum were also removed and assayed for histamine.

Figures 2A and 2B show examples of the responses to extracts prepared from the lung tissue of normal and diphenylhydantoinized dogs, respectively.

It is clear that in both instances the presence of histamine is demonstrable. The test responses were also not altered on repetition nor were the responses of the gut to added histamine altered in any way following these tests with the lung extracts. It is therefore apparent that diphenylhydantoin administration does not alter the extractable histamine content of lung tissue.

Figures 2C and 2D, show responses obtained from extracts of either lung or ileum in animals treated with either mesantoin or dilantin. The responses to

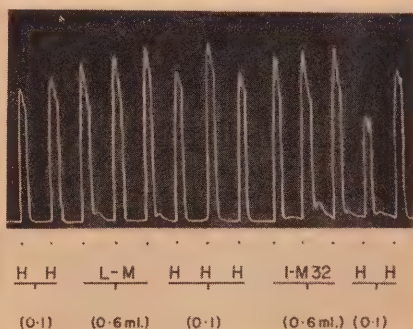


FIGURE 2C

Histamine assay on guinea pig ileum showing the responses to the standard (H/0.1) and to lung extracts (L-M) and ileum extracts (I-M32).

ml.). Following these additions to the bath, the uterus showed much greater responses to the standard serotonin, and the effects of two successive 10 nanogram doses (5HT/10 ng.) were clearly greater than observed at the beginning of the experiment. However, the response to the extract (X/0.015 ml.) was also somewhat increased, and the exact significance of this apparent potentiation of the serotonin effect is not clear.

Figure 3B shows a similar assay, using an extract obtained from a dog maintained on a dose of 200 mg. of dilantin for 34 days before the gingiva was excised. Again, it can be seen that following each of the initial injections (5HT) of 2 nanograms (0.002 μ g.) of serotonin there was an almost identical contraction recorded; (5HT/2 ng.) in each instance. However, following two successive tests using 1 ml. and 0.5 ml. of the extract (XB) from the dilantin-fed dog, no responses were elicited. In view of the high sensitivity of the preparation to serotonin, it must be concluded that following dilantin there was a complete disappearance of serotonin from the gingiva. The record however, shows that following the tests with the extracts, there was a temporary diminished responsiveness of the uterus to serotonin and the tissue was progressively restored to normal sensitivity. This

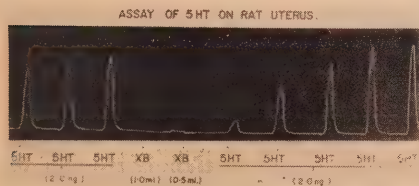


FIGURE 3B

Serotonin assay on albino rat uterus, showing absence of responses to two successive tests of extracts obtained from gingiva of a dilantin-fed dog (XB) and responses to 2 nanogram doses of standard serotonin (5HT/2 ng.) before and after.

ASSAY OF 5HT ON RAT UTERUS.



CONTROL.

FIGURE 4A

Serotonin assays on the albino rat uterus, showing responses to tests of extracts obtained from brain tissue of ferrets—normal control ferret (F3).

effect may be due to some type of serotonin-antagonism induced by the extract and possibly related to the observed complete absence of any response to the extract itself.

From the above findings there is little doubt that normal dog gingiva contains high concentrations of extractable serotonin, and that following dilantin administration, no extractable gingival serotonin is demonstrable. This latter effect is also associated with the development of some temporary antagonism to the subsequent responses to standard serotonin.

B. Studies on Changes in Serotonin Content of the Brain Tissue of Ferrets

Since gingival tissue extracts appeared to show characteristic changes in their histamine and serotonin contents after dilantin, as compared with both normal tissue and the other tissues examined (lung and ileum) following either dilantin, mesantoin or phenobarbital, it was of interest to investigate the responses of the brain tissue in similar experiments. In

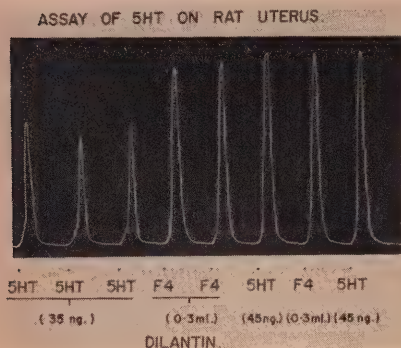


FIGURE 4B

Serotonin assays on the albino rat uterus, showing responses to tests of extracts obtained from brain tissue of ferrets—dilantin-fed ferret (F4).

view of the fact that all three agents studied (dilantin, mesantoin and phenobarbital) depress brain function, and it is well known that during sedation induced by other agents (reserpine for example), brain serotonin is rather increased, it was of special interest to compare the changes in serotonin induced in the brain by these agents.

Bonnycastle (1956) has reported that dilantin increased the serotonin content in the brain of rats.

Figure 4 shows comparatively the serotonin contents of ferret brain tissue, extracted from normal animals (4A), dilantin-fed animals (4B) and mesantoin treated animals (4C). For these experiments a series of 12 ferrets was used. The general procedure employed for obtaining the tissue in these experiments was to guillotine the animals and to quickly remove the brain using the total tissue, with the exception of the cerebellum, which is considered to be free of serotonin. The brains varied in weight from 5.2 to 6.3 grams. The extraction procedure and assay methods were the same as those employed for the gingiva.

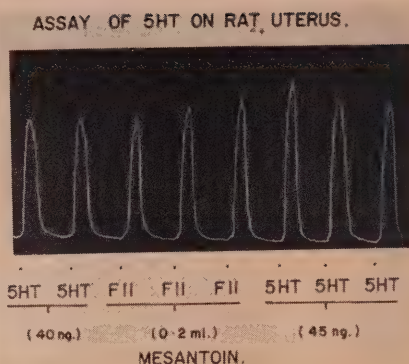


FIGURE 4C

Serotonin assays on the albino rat uterus, showing responses of tests of extracts obtained from brain tissue of ferrets—mesantoin-fed ferret (F11).

As can be seen, following the initial administrations of 40 nanograms (0.040 μ g.) of serotonin, there were identical contractions recorded, (5HT/40 ng.). Following these tests, using 0.2 ml. of the extract (F-3) from the normal animal, three almost identical responses are shown. These responses were also almost identical with the response to a subsequent test dose of 30 ng. (5HT/30 ng.) of standard serotonin. From the assay data obtained from the normal ferrets, it was calculated that the quantities of serotonin gave a mean value of 146.3 ng./gm. tissue, ranging from 129.8 ng./gm. to 162.9 ng./gm. in 4 tests.

Figure 4B shows an example of an assay of an extract obtained from the brain of a dilantin-fed ferret which had received 40 mg./day for 111 days. The responsiveness of the uterus was again standardized using 35 nanograms of serotonin (5HT/35 ng.). The injection was repeated three times and led to similar responses. Two succeeding tests of the brain extract from the dilantin-fed ferret (F/4) in a dose of 0.3 ml. led to the marked responses shown. The standard dose was increased to 45

nanograms (5HT/45 ng.), and this gave a response which was identical to that of 0.3 ml. of the extract (F-4/0.3 ml.). It was calculated that the quantities of serotonin obtained from dilantin-fed ferrets had been increased to 209.7 ng./gm. tissue, ranging from 198.3 ng./gm. to 220.4 ng./gm. in 4 tests. These animals also showed definite gingival hyperplasia due to the prolonged administration of the drug.

Figure 4C is an example of an assay of brain extract obtained from mesantoin-fed ferrets. Two contractions obtained from 40 nanograms (5HT/40 ng.) are first shown and appear to be slightly less than those obtained with the brain extract in doses of 0.2 ml. (F/11/0.2 ml.). However, the last two doses of standard serotonin — 45 nanograms (5HT/45 ng.) — led to identical responses. It was calculated from these data that the mean quantity of serotonin detectable in the mesantoin-fed ferret brain was 260 ng./gram of tissue, ranging from 142.1 ng./gm. to 370.1 ng./gm. in 4 tests. This again is a considerable increase over the concentrations found in the normal untreated animals.

It is therefore concluded that both diphenylhydantoin and mesantoin lead to a significant increase in brain serotonin. No experiments were performed with phenobarbital, and changes in the brain histamine under these conditions have not yet been investigated.

OBSERVATIONS ON CHANGES IN EXTRACTABLE HISTAMINE AND SEROTONIN FROM GINGIVA OF HUMANS

Since it is almost impossible to acquire normal gingival tissue in adequate quantity from patients, resort was made to autopsy material, obtained within 2 hours post-mortem. The tissue appeared grossly to be normal in every respect. For the extraction and assays, identical methods were followed as for the experimental animals, as previously described, and quantities of 300-370 mg. of gingiva were used.

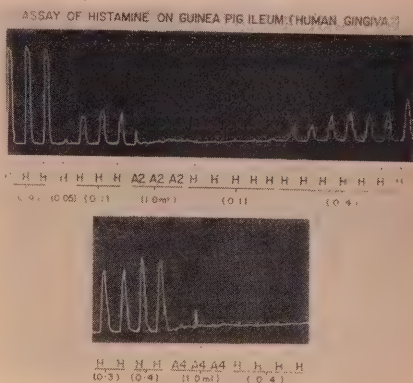


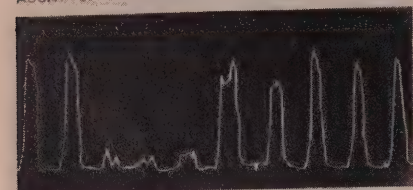
FIGURE 5A

Top and bottom of the figure shows histamine assay on guinea pig ileum, showing effects of gingival extracts from humans (A2/1.0 ml.) and (A4/1.0 ml.) and responses to 0.05, 0.4, and 0.3 micrograms of standard histamine.

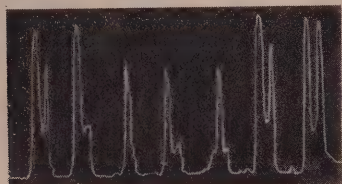
Figure 5A shows assays from two such cases. During the initial standardization to histamine, the responses to various test doses (ranging from 0.05 to 0.4 mgm.) are shown. The effects of three successive tests, of doses of 1 ml. each, of the extract obtained from the human gingiva (A2/1.0 ml.) showed a slight initial contraction which was smaller than the response to 0.1 microgram of standard histamine (H/O.1), but no subsequent responses to the extract were observed. There was also no response to the standard histamine (H O.1) for five successive repeated injections. At this time, the dose of the standard histamine was increased to 0.4 micrograms (H/0.4), and the response was progressively restored. The amount of extractable histamine was calculated to be 8.3 micrograms per gram of gingival tissue in these cases.

At the bottom of the figure is another example of an extract from human gingiva. In this instance the initial test showed only a very slight histamine contraction and following exposure of the gut to these injections, it was impossible to restore the gut to normal histamine

ASSAY OF 5HT ON RAT UTERUS (HUMAN GINGIVA)



5HT 5HT A3 A3 A3 A3 A3 5HT 5HT 5HT
(40 ng.) (0.4 ml.) (1.0 ml.) (40 ng.)



5HT 5HT A1 A1 A1 5HT 5HT
(40 ng.) (0.5 ml.) (40 ng.)

FIGURE 5B

Top and bottom of figure: Serotonin assay on the albino rat uterus, showing responses to repeated tests of extract from normal human gingiva (A3) and (H1), and to test doses of standard serotonin (5HT/40 ng.).

function for the remainder of the experiment, even with repeated washings and injections of the standard histamine using 0.4 microgram doses (H/0.4).

It is therefore evident that human gingiva contains only relatively small quantities of demonstrable histamine, but all extracts showed rather marked 'histamine-blocking' actions.

Figure 5B shows the result of assays for serotonin in gingival extracts prepared from the same two cases (Fig. 5A). It can be seen (upper section) that two initial injections of a dose of 40 nanograms (0.040 μ g.) of a standard serotonin solution led to good responses. Following this, three successive doses of 0.4 ml. of the human gingival extract were injected (A3/0.4 ml.). These led to much smaller repeatable contractions. The dose of the

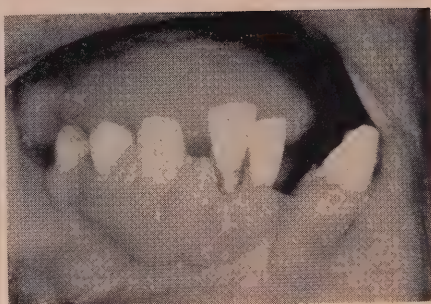


FIGURE 6A

Photograph of patient with inflamed gingival tissue.

extract was then increased to 1.0 ml. (A3/1.0 ml.) and two injections were given. These elicited a response almost similar to those following the three standard serotonin doses of 40 nanograms (5HT/40 ng.). It is therefore clear that human gingival tissue is rather rich in serotonin and the calculated concentration was 1301 nanograms (1.301 μ g.) of serotonin per gram of gingival tissue.

At the bottom of the figure are shown results of another similar assay. In this experiment doses of 40 nanograms of standard serotonin were used to standardize the uterus (5HT/40 ng.). Following this, as can be seen, good contractions were produced by the extract using 0.5 ml. (A1/0.5 ml.)—three injections. Subsequent injections of 40 nanograms of standard solution gave almost identical responses to those previously obtained with the test doses of 40 ng. (5HT/40 ng.). The amount of serotonin present in this extract was thus calculated as 1238 ng. (1.238 μ g.) per gram of gingival tissue, corresponding rather closely to the figure obtained in the preceding test (5B, upper section).

Figure 6A shows a photograph of a patient with extreme hypertrophy of the gingiva. The tissue was red, spongy, edematous, and bled at the least amount of pressure. This patient had received no previous medication and suffered from no

ASSAY OF HISTAMINE ON GUINEA PIG ILEUM.(HUMAN GINGIVA)

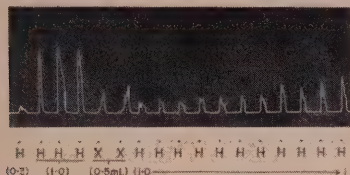


FIGURE 6B

Histamine assay on guinea pig ileum showing effects of human inflamed gingival extracts (X/0.5 ml.) and responses to 0.3 and 1.0 micrograms of histamine.

systemic disease. Her reason for presenting herself for treatment was because of the bleeding. The anterior teeth were removed and 550 milligrams of tissue was excised.

Figure 6B shows the results of *histamine assay* of an extract prepared from 400 mg. of the excised tissue. The first injection of 0.3 micrograms of the standard histamine (H/0.3) gave only a small response. This was increased to 1.0 micrograms and three such test doses gave good equal responses. This was followed by two injections of the extract of the inflamed gingival tissue (X). These again gave equal responses. However, following the exposure of the gut to this gingival extract, the gut was depressed and after several injections of the standard histamine, using doses of 1.0 micrograms (H/1.0 mg.), it did not return to normal. However, from the data it was calculated that the tissue contained 62.5 $\mu\text{g./gm.}$ of histamine, as compared with only 8.3 $\mu\text{g./gm.}$ found in the autopsy material from presumably normal gingiva.

Figure 6C shows the results of a *serotonin assay* of an extract prepared from 150 mg. of the same gingival tissue used in the histamine assay. Standard responses to doses of 1 and 2 nanograms of serotonin are first shown. Following these an injection of 1.0 ml. of the gingival extract led to no response (XI/1.0 ml.). This was followed by two injections of the standard

ASSAY OF 5HT ON RAT UTERUS.

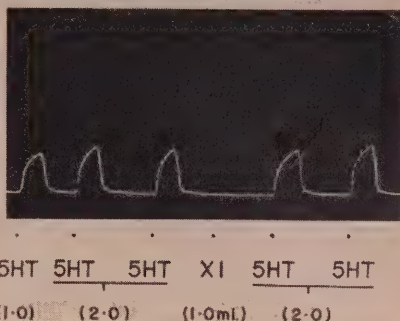


FIGURE 6C

Serotonin assay on the albino rat uterus, showing absence of responses to one test of extract (XI) obtained from human inflamed gingiva.

serotonin again, using 2.0 nanograms (5HT/2.0 ng.). At no time in this record did the extract elicit any response. It would appear therefore that inflamed gingival tissue shows a high histamine content, but no demonstrable serotonin. However, investigation of more cases would be necessary before a final conclusion could be reached on these points.

Figure 7A is a photograph of the maxilla of a twelve-year-old girl who had been maintained on dilantin (60 to 300 milligrams per day) as well as on phenobarbital (75 to 120 mg. per day) for 10 years. The hyperplasia shown was only of six months duration. Prior to that, the gingival tissue was essentially normal. A total of 3.34 grams of tissue was excised for histological study and assays.

Figure 7B shows the results of the *histamine assay* of an extract from this child. Following the initial standardization to histamine (0.025 to 0.5 $\mu\text{g.}$), three injections of 0.6 ml. (X/0.6 ml.) of the gingival extract were given. These elicited very small responses considering the sensitivity of the gut. This was again followed by four injections of 0.025 micro-

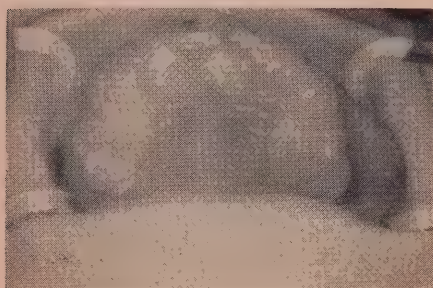


FIGURE 7A

Photograph of child with dilantin hyperplasia.

ASSAY OF 5HT ON RAT UTERUS (CHILD ON DILANTIN.)

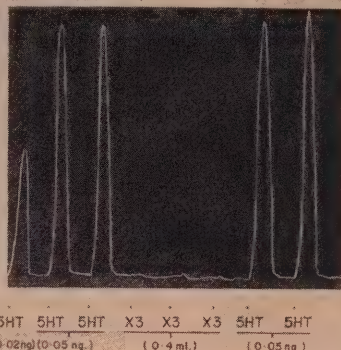


FIGURE 7C

Serotonin assay on the albino rat uterus, showing absence of responses to three successive tests of extracts obtained from human dilantin hyperplastic gingiva.

ASSAY OF HISTAMINE ON GUINEA PIG ILEUM.

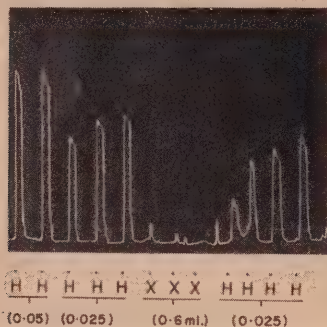


FIGURE 7B

Histamine assay on guinea pig ileum showing the effects of dilantin hyperplastic tissue extract (X/0.6 ml.) and the responses to 0.05 and 0.025 micrograms of histamine (H/0.05), (H/0.025).

grams of the standard histamine, which gave increasingly stronger responses but which however did not return to normal. In spite of the high sensitivity of the gut to histamine and the relatively large quantity of tissue employed, the small amount of histamine detectable was rather surprising.

Figure 7C is the result of a serotonin assay using the same gingiva as above. Test doses of the standard serotonin of 0.02 nanograms (5HT/0.02 ng.) and 0.05 nanograms (5HT/0.05 ng.) were given, and as can be seen, the uterus was very sensitive. When the extract from the hyperplastic gingival tissue was injected — giving three injections of 0.4 ml. (X/0.4 ml.) — no response occurred and at no time was there any evidence of serotonin present in the extract.

It would therefore appear that extracts obtained from the hyperplastic gingiva excised from this patient previously treated with dilantin and phenobarbital showed relatively little histamine and complete absence of serotonin.

DISCUSSION

The findings presented show that extracts of gingival tissue from normal dogs contain varying quantities of histamine or a histamine-like substance. Such extracts apparently also exert an unusual anti-histamine or histamine-antagonizing ef-

fect upon the guinea pig ileum following repeated testing. On the other hand, similarly prepared extracts of gingival tissue from dilantin-fed dogs contain relatively higher histamine or histamine-like activity and such extracts induce quantitatively repeatable responses on the guinea pig ileum. In fact, the extracts from the dilantin-fed animals appear to exert rather a histamine-potentiating action on the ileum. Phenobarbital and mesantoin did not appear to affect the gingiva histamine content, and in these experiments responses observed were similar to those obtained from normal dog gingiva.

In other experiments, using the lung and ileum of dogs, it can be seen that there is no histamine-antagonizing substance present and with all the drugs tested—dilantin, phenobarbital and mesantoin—the tissues responded similarly to the normal with the exception of the ileum, where a slight antagonism is seen to the initial injections.

In similar types of experiments in which changes in the serotonin-content were investigated, it was observed that normal dog gingiva shows relatively large amounts of extractable serotonin. On the contrary, gingival extracts of dilantin-fed dogs showed no evidence of serotonin.

It is also shown that both dilantin and mesantoin increase the serotonin content of the brain tissue of ferrets. The question arises whether or not these histamine like responses of the extract are really due to histamine or some other substance in the extracts. There seems to be little doubt on this point, and as already pointed out at the end of the assays in numerous experiments it could be demonstrated that the response to the extract, like that to histamine itself, was blocked by the anti-histamine agent, mepyramine. Similarly in the serotonin experiments the responses were blocked by the anti-serotonin agent, lysergic acid diethylamide (L.S.D. 25).

Normal human gingival tissue shows a similar response to that of normal dog gingiva, i.e. the presence of histamine and a histamine-antagonizing substance. This

latter might be responsible for blocking the effects of extracted histamine from the gingiva in some of these experiments, since the anti-histamine effect appears rather intense and prolonged with human tissue.

It is also seen that normal human gingiva is rich in serotonin, as is the normal dog gingiva. In the inflamed tissue there appears to be an increase in histamine but a disappearance of serotonin. On the other hand, in the dilantin-hyperplastic tissue examined there appeared to be little histamine, but as already stated, the striking and prolonged 'anti-histamine' effects observed in those experiments make it difficult to draw a definite conclusion at this point. It is nevertheless clear that there is a complete disappearance of the serotonin in the dilantin-hyperplastic gingiva. It might be mentioned that in the dilantin-fed dog, there was no gross hyperplastic tissue, as in the human, but the histological studies showed microscopic hyperplasia with an inflammatory reaction. The tissue from such animals might therefore be considered to be histologically rather similar to that of the inflamed human tissue, and perhaps part of the increased histamine content observed might be related to this latter factor.

SUMMARY

1. It is concluded that neither mesantoin nor phenobarbital administration lead to any significant increase in extractable gingival histamine. While in the dilantin-fed dog gingiva there appears to be a decided increase particularly in comparison with the normal gingival tissue which shows evidence of some histamine-antagonizing or antihistamine substance.
2. It is apparent that diphenylhydantoin administration does not alter the extractable histamine content of lung tissue. However, extracts of the ileum also showed histamine-antagonizing action.

3. Extracts of normal gingiva of the dog contain relatively high quantities of extractable serotonin and following prolonged dilantin administration no evidence of serotonin is detectable in the extracts. This latter affect is also associated with development of some temporary antagonism to the subsequent responses to serotonin.
4. It is concluded that both diphenylhydantoin and mesantoin lead to a significant increase in brain serotonin.
5. It is evident that human gingiva contains only relatively small quantities of demonstrable histamine, but all extracts showed marked 'histamine-blocking' actions. However, it is clear that this tissue is rich in serotonin.
6. It would appear that inflamed gingival tissue contains a high histamine content but no demonstrable serotonin.
7. It also appears that extracts obtained from the hyperplastic gingiva excised

from a patient previously treated with dilantin and phenobarbital shows relatively little histamine and complete absence of serotonin.

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Immediate Canal Filling Without Apical Curettage

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At the outset, it is assured that this practice of immediate canal filling without apical curettage is not meant in any way to replace or modify the existing endodontic techniques which require medication and negative cultures. It is a reasonable attempt, if used discreetly, to save very carious teeth with severe pulpitis.

This immediate canal filling is indicated:

- (1) where successful banding of the crown is problematic because caries

extend to the alveolar crestal bone;

- (2) where no periapical involvement, such as swelling or putrescence, is present;
- (3) where the first sustained ache is present after about a week of mild intermittent discomfort in the patient's hope that it will vanish and also after, perhaps, a sleepless night; the application of heat may sometimes increase the pain; and lastly
- (4) where the radiograph confirms cari-

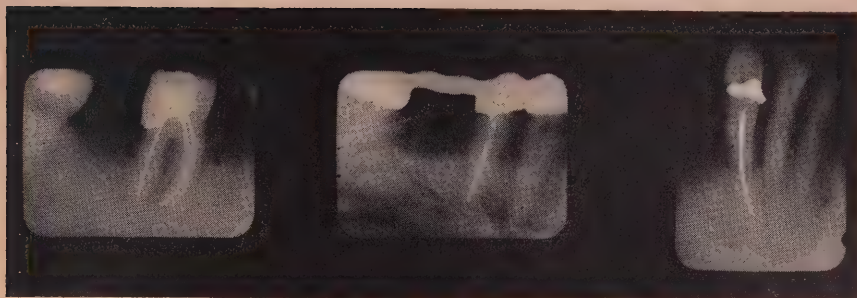


FIGURE I

FIGURE II

FIGURE III

ous extension to pulp and bone, and the vitalometer indicates reduced vitality — if any.

The immediate canal filling technique embraces:

- (1) adequate local anaesthesia;
- (2) extending occlusal burring to bring canal orifices into view;
- (3) thorough filing to the root end(s), irrigating, drying and filling with silver point(s) and a canal cement;
- (4) restoration of the excavated tooth structure with amalgam, silicate, or acrylic; and finally
- (5) in the event of post-operative discomfort, apply heat to the area and take a tablet containing half a grain of codeine.

Figure I depicts a lower left cuspid where there was extensive lingual caries resulting from poor oral hygiene, associated with a partial denture. The case embraced all the aforementioned indications for an immediate canal filling which was then completed. The patient experienced no post-operative discomfort. Saving this cuspid was imperative because of the questionable suitability of the lateral as an abutment for the partial.

Figure II shows a lower left second bicuspid that was used as a bridge abutment with resulting gross caries under an MO inlay. The conditions of the case co-

incided with the indications for an immediate filling. This case was also completed without any post-operative discomfort. Only the apical half of the canal was filled with a silver point to facilitate making a post abutment if required for the new bridge.

Figure III shows a lower left molar that required an immediate filling, which was carried out successfully. This patient could not afford a fixed bridge and would not consider a removable partial because his right quadrants were intact. The saving of this molar has maintained chewing on the left side — thus keeping it used, clean and healthy, and the right side free from over use. Even if the patient could afford a fixed bridge and one is inserted, he is sentenced to a lifetime of "dental flossing" after meals. In this connection, it is hoped that endodontic service will one day be rendered in posterior teeth by the general practitioner as freely as he fills the canals of anterior teeth.

In conclusion, it is repeated that this practice of immediate canal filling without apical curettage is not intended to replace or modify present-day techniques requiring medication and negative cultures. Rather, it is presented as an auxiliary weapon in our armamentarium to maintain the integrity of the natural dentition.

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Pulpectomy in Young Permanent Incisors

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Common indications for pulpectomy in young permanent teeth are pulpotomies which have failed and diseased pulps resulting from accidental blows. Since accidents followed by pulp death are almost commonplace even before the root end is completely formed it is desirable that the dentist treating children acquaint himself with some effective method for retaining these teeth regardless of their stage of development.

There is a widespread reluctance to retain through endodontic treatment teeth which have not yet developed a "closed" apex. This is largely due to unnecessary lack of confidence in our ability to properly obturate the wide canal at the close of treatment without resorting to the apicoectomy type of operation. The purpose of this communication is to emphasize several maneuvers unique to the treatment of very young permanent teeth. Particular attention will be paid to a very simple method of filling the canals, obviating the surgical approach.

DIAGNOSIS AND TREATMENT PLANNING

Extensive fractures of young 2° incisors are usually treated by pulpotomy if the pulp is exposed, but vital, and by pulp protecting measures if the pulp is not exposed. The pulpotomy should be regarded as an interim treatment in most instances. Its greatest virtue outside of sim-

plicity is that it allows the root to go on to completion, when a pulpectomy may more easily be done.

Every injured incisor whether fractured or not and whether pulpotomized or not should be examined frequently by the dentist. This is so because pulp tissue seemingly may sustain a latent injury which cannot be detected clinically at the time of the accident. This latent injury may later manifest itself in painless pulp death or pathological root resorption and it is important that these conditions be recognized and treated early. Pulpotomies may "fail" even after a well formed dentine bridge is visible in the roentgenogram. It is therefore suggested that every injured incisor be examined clinically and roentgenographically at intervals of 3 to 4 months during the first year and thereafter at the discretion of the dentist. The parent should be told of the possibility of latent damage having occurred.

Pulp tests may be confusing, because of numbness at the time of injury and later because of the lack of typical response to thermal and electrical tests in very young teeth.

Roentgenograms should be examined for evidence of root fracture, pathological resorption, abnormal calcification, periapical rarification, and progress of root maturation. The periapical region

should be compared with a corresponding normal tooth. (After a long period of doubt this writer has concluded that it is worth while to examine all roentgenograms with a good magnifying glass.) The formation of a dentine bridge over a pulp exposed by fracture is unfortunately of very little significance. The indications for pulpectomy or complete root canal therapy in immature permanent teeth are in general where other treatment has failed or served its purpose as disclosed by follow-up examinations or where the patient presents with a diseased or necrotic pulp.

RATIONALE

The main stumbling block in treating these teeth seems to have been finding a suitable method of filling the canals.

Since growth and development of the teeth and of the facial skeleton and eruption are all progressing at the same time the upper incisors lend themselves to obturation by the method to be described as soon as they are erupted far enough to be injured in most common accidents. If we divide young maxillary incisors into three broad groups — blunderbuss or flared, parallel walled, and partially closed — as in fig. 1, we will find that those in the first group, though virtually impossible to obturate well, are seldom erupted far enough to sustain an injury severe enough to result in pulp involvement. By the time the tooth is sufficiently erupted it ordinarily falls into group two. This is fortunate because it means that we seldom have to resort to the surgical approach in these young people. This is especially important to the dentist not experienced in dealing surgically with the deeper tissues in this phase of development. The lower incisors retain a very ovoid foramen until fairly late in their development and are therefore more difficult to treat at this stage but happily they seem to be less vulnerable to injury until a later age.

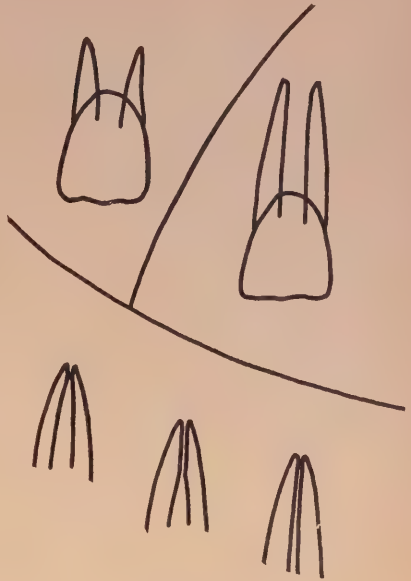


FIGURE 1

TECHNIQUE AND METHOD OF DETERMINING LENGTH

The basic principles of rational endodontics should be followed. Without apology I say that the so-called culture method should be followed wherever possible. The additional comfort and safety afforded the patient are well worth the very slight additional time required.

The first problem unique to the type of case under discussion is rubber dam technique. Because the teeth are not fully erupted a clamp of some type is almost always required. Where it can be used with confidence the Ivory "O" pattern is preferred because of the good access afforded by a single-bowed clamp. Where more "grip" is required the S.S. White #211 is decidedly the clamp of choice. Where the #211 can not be placed securely a pinch band, or a stainless steel

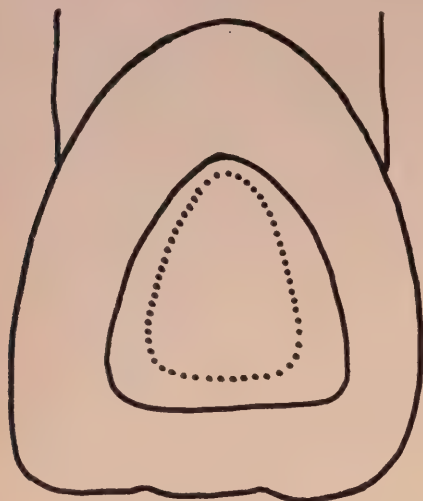


FIGURE 2A



FIGURE 2B

crown with a large pre-cut lingual opening, cemented in place, is excellent. When a band has been placed, a clamp is usually not necessary and tends to loosen the band. Where the tooth has a fracture running slightly below the gingivae a band cut from a pre-formed stainless steel crown and cemented in place will usually allow the dam to be placed with confidence. During the initial phase of treatment if the tooth is very sore, the rubber dam can be held in place fairly well with a piece of heavy ligature wire formed with a half-inch loop lingually and a pigtail labially. The lingual loop supports the dam on the lingual and the loop is stabilized by passing the free ends around the tooth, forming a pig-tail and tacking the pig-tail to the labial surface with modelling compound. This arrangement usually will not permit a large enough lingual opening to complete treatment but a good beginning can be made and when the tooth becomes comfortable a proper clamp may be used. Occasionally at the final appointment it is wise to elevate the

gingiva surgically so that the clamp may be placed with absolute confidence.

Some thought should be given to the coronal opening. If the crown is intact or nearly so access to the pulp cavity is gained through the lingual surface as is customary (fig. 2a). Because of the large pulp chamber with prominent pulp horns and the large size of the "throat" of the canal the opening must be considerably larger than would be made for a more mature tooth. Sometimes the pulp horns extend so far incisally that it is imprudent to extend the lingual opening the entire distance. Here a small instrument such as the 3-2-28 bi-bevelled hatchet is used to carefully plane the pulp horns. Where the pulp chamber has been laid open by a transverse fracture it is tempting to simply enlarge this natural incisal opening (fig. 2b). This would not provide adequate access however, and the correct maneuver is to *visualize the opening that would be made in an intact tooth and combine this with the natural opening resulting from the fracture* (fig. 2c). Only



FIGURE 2C

in this way will the opening be sufficiently large to cleanse all parts of the canal and obturate it.

Vital pulps, if very large, are difficult to remove with a single barbed broach. However, if two or three barbed broaches are placed in the canal *one after the other* and then twisted slightly and withdrawn *all together* the pulp will invariably be extirpated neatly. Hemorrhage under the circumstances does not usually indicate pulp remnants remaining but is a function of the rather large wound in the periapical tissue.

In determining the true length of a maxillary tooth using a diagnostic wire or instrument there is a tendency for the instrument to fall out of the very large canal while the roentgenogram is being taken. This problem can be overcome by lightly wedging the instrument with a paper point or cotton pellet or by using, instead of a file, a short length of clasp wire bent double and spread to exert slight pressure on the walls of the canal.

Because the large straight canals of these teeth permit it, advantage should be taken of the very rapid filing action of the "Hedstroem" type of file for me-



FIGURE 2D

chanical preparation. Where the crown of the tooth is nearly intact, these instruments should always be pre-curved or bowed prior to use so that the inclination of the crown will not obstruct the preparation of the labial surface of the coronal third of the root canal (fig. 2d). This is not always necessary if the fracture has eliminated the incisal third of the crown.

Drying the canals following irrigation should be done by aspirating the liquid into the empty syringe which was used for irrigation, then mopping the canal



FIGURE 2E

with a small cotton pellet impaled on the tip of a barbed broach. Wherever paper points are used the Caulk type "A" points are preferable because of their very large size. (The tips should be removed with scissors and the length controlled to avoid unnecessary pain and injury to the peri-apical tissues.)

Instead of the traditional double seal of gutta percha and zinc oxide and eugenol cement it is suggested that only a very stiff mix of accelerated zinc oxide and eugenol cement be used between ap-

pointments. This is because there is no firm seat against which to place the gutta percha so that it usually is just a nuisance in immature incisors.

Sufficient time should be allowed before the second appointment to permit recovery from the injury in vital pulp extirpation. Hemorrhage into the canal will usually not be a problem after a few days.

A number of methods of obturation have been advocated from time to time. The one offered here seems to give the best results of any in the hands of the "occasional endodontist".

Assuming that all previous steps have been properly carried out, and the prerequisites to obturation have been met, determine the point at which you wish to terminate the root filling. Frequently this will be at the roentgenographic root apex (fig. 2e, lower drawing) but where the canal has a sharply demarcated flare in the apical 2 or 3 millimeters it is probably best to get a good seal below the flare rather than a poor seal at the apex (fig. 2e, upper drawing). The length of the tooth from the incisal edge or reference point to the proposed terminal point should be recorded. The approximate diameter of the prepared canal should be determined from the roentgenogram. Using pure white base plate gutta percha (because it is cheap) or a number of gutta percha root canal cones (because they are at hand) a cone or rod should be fabricated which will fit to within 2 to 4 millimeters of the apex or terminal point. This can easily be done by thoroughly warming the gutta percha and rolling it between two glass slabs or a glass slab and a warm metal silicate spatula. Very little practice will make you quite expert at this. In order to maintain the aseptic chain, a "blank" may be partly prepared prior to the final appointment and left in untinted Metaphen between appointments, then fitted to the canal using a disinfected slab and spatula for the final rolling. Note that the cone is not fitted to the apex but considerably



FIGURE 3

short of it (fig. 3). (If the tooth has matured to the point where the canal walls are beginning to be convergent, then it should be fitted nearer to the apex than if the walls are still "parallel".) The fit of the cone should be verified roentgenographically after which the cone should be cut as in fig. 4 to the recorded length of the tooth (incisal point of reference to proposed apical termination of filling). The canal should now be thoroughly dried with size "A" paper points, being careful not to start any fresh bleeding. The walls are carefully coated with root canal sealer to within 3 mm. of the apex using a marked instrument. Note that the canal is not filled with cement. The fitted cone is now rolled in sealer and forced gently into the canal. It will usually seat a little farther now because of the lubricating action of the sealer. However, it will still protrude beyond the incisal edge or reference point by the same amount that it is short of the apex or chosen point of termination of the root filling. The amount of protrusion is measured and recorded. A hot carver is then used to slice off the cone in about the lower third of the pulp

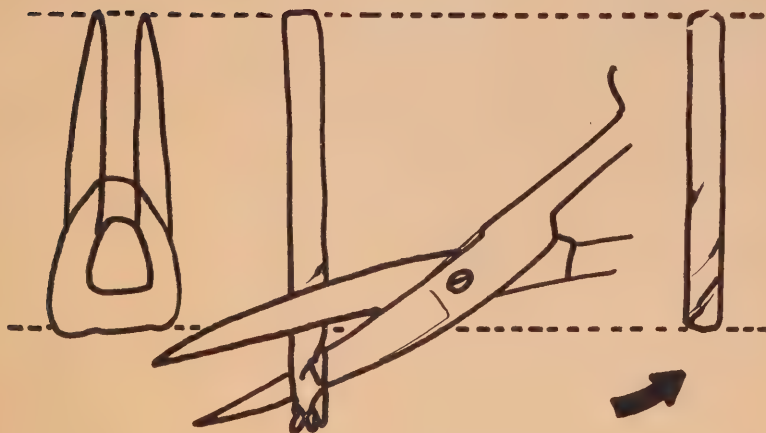


FIGURE 4

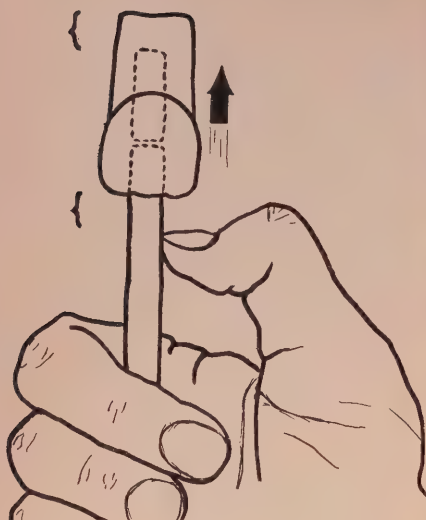


FIGURE 5



FIGURE 6

chamber. An orangewood stick of moderately large diameter is now introduced into the pulp chamber and abutted to the gutta percha cone (fig. 5). The thumb nail is placed even with the incisal point of reference then slid back by the amount that the gutta percha cone protruded. Sufficient force is now applied in an apical direction to fully seat the cone *as indicated by the thumb nail again coming even with the incisal reference point*. A roentgenogram is then taken to verify the result (fig. 6). Before dismissing the patient it is necessary to remove all excess filling material from the pulp chamber using a hot cement plugger, spoons, and cotton pellets moistened in a solvent. Care should be taken that the material is removed to a level below the eventual (adult) gingival margin (fig. 7). Temporary stopping covered with zinc oxide and eugenol cement may then be used to block the lingual opening for a few days until a restoration can be placed. The patient should be admonished to return

for follow-up examination at semi-annual intervals for a year or two and thereafter at the discretion of the dentist.

TECHNICAL ERRORS

- a) rolling the cone to such a size that it can be easily passed to the apex. Because of the slight curvature of the canal, its large bore, and the fact that it is not usually of a regular circular outline (in spite of careful filing), a cone of gutta percha which can be passed easily to the apex could not be so closely adapted to the walls as to give a good seal at the apex (fig. 10a, b).
- b) attempting to fill the canal with cement instead of coating the walls. With mature teeth an attempt is commonly made to actually fill the canal with cement before the gutta percha or silver cone is seated, especially where the "single cone"



FIGURE 7



FIGURE 8

method is used. In teeth with an "open apex" however, this usually results in cement being forced through the apex (fig. 8). While this will not usually be manifestly harmful it is not, to my mind, desirable.

- c) relying on grossly inadequate root fillings because they remain symptomless (fig. 9a,b,c). As shown in fig. 9a, a cystic lesion involving the upper right quadrant from central incisor to first molar has developed apparently from a badly treated lateral incisor root. The patient suffered no pain until a few days before the roentgenogram was taken. Similarly in (fig. 9b, a lesion has apparently spread from a badly filled central to the adjacent lateral incisor. In fig. 12c, the lesion can not be expected to heal until proper obturation is achieved.

RESULTS OF TREATMENT

The happiest situation is when subsequent roentgenograms show a satisfactory bone picture with evidence of a lamina dura completely surrounding the root. Occasionally the root will go on to completion (fig. 10) ¹ in spite of the fact that an acute alveolar abscess may have been present. While this result is interesting it is not of any great importance so far as success is concerned. Occasionally a case will be encountered where the bone does not regain its normal appearance or density even though some trabeculation is evident. This may be the result of a deficient filling but more probably is the result of an occlusal problem, perhaps a local one initiated by slight extrusion of the tooth during the acute phase. The role of occlusion in endodontics has been generally understressed.

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FIGURE 9A



FIGURE 9C



FIGURE 9B



FIGURE 10

SUMMARY AND CONCLUSION

Only the departures from routine endodontics which are applicable to treatment of immature permanent incisors have been presented. Solutions to several pertinent problems have been given. A simple and effective method of obturation for these teeth has been described in detail. The article assumes a prior knowledge of basic endodontics. The writer would welcome correspondence on this subject.

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ABSTRACTS

Dentistry's Potential Contribution to Society

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Dentistry's potential contribution to society may be defined as oral health care for all. The fact that, while virtually all of the population have some form of dental disease, only 36 per cent now receive regular dental care, illustrates how far from that goal dentistry is at present.

There are two main reasons for the present situation: 1) public attitude, influenced both by ignorance of the value of

dental care and by economic considerations; 2) the growing shortage of dentists, which may already be depriving some of dental care who want it and can pay for it.

Action in at least six areas is needed to help dentistry more nearly realize its potential contribution: 1) emphasis on dental health education by the individual practitioner and by the profession as a

whole; 2) development of dental care programs which will minimize economic considerations when dental care is needed; 3) changes in the pattern of dental education to give not only a greater number of graduates but also training with more emphasis on preventive dentistry and public health dentistry; 4) increase in efficiency of dental practice; 5) greater emphasis on basic research; 6) greater emphasis on preventive dentistry, utilizing research findings.

The benefits to society from achievement of oral health care for all would be

enormous. Militarily, it would improve the nation's fighting readiness by removing the need for oral rehabilitation of recruits; economically, it would reduce the loss of productive effort caused by dental disease; socially, it would prevent the stigmatization which uncorrected dental conditions impose. The achievement of adequate oral health care for all will be difficult; the profession must strive to achieve it in order to retain and reinforce its position as a health profession.

Journal of the American College of Dentists.
Vol. 26—No. 2—June 1959.

A Description of the Molar Teeth and Investing Tissues of Normal Guinea Pigs.

A. M. HUNT, D.D.S.

The Effects of Ascorbic Acid Deficiency on the Teeth and Periodontal Tissues of Guinea Pigs

A. M. HUNT, D.D.S. and K. J. Paynter, D.D.S.

Only men, monkeys and guinea pigs require an extraneous source of ascorbic acid, and experimental work on ascorbic acid deficiency is necessarily limited to guinea pigs and monkeys.

The assessment of such a deficiency and its effect on guinea pig tooth and periodontal tissue depends upon a complete understanding of the microscopic anatomy of the jaw of normal guinea pigs.

Fifty, 200 gram guinea pigs were reared on a synthetic diet. Sub-groups were given various amounts of L-ascorbic acid ranging from complete deprivation to an adequate supply. The jaws were decalcified, sectioned in one of three planes so that a three dimensional view could be obtained, and stained with a variety of differential stains. Dried skulls of guinea pigs of various ages were examined to

provide information about the size and curvature of the teeth.

Guinea pigs are herbivores and have laminated molars comprised of a core of dentine covered by enamel. Folds in the teeth are filled with cartilage. The molars erupt continuously and continuous replacement of tooth and periodontal tissue is maintained by the presence of a persistent enamel organ and undifferentiated pulpal and periodontal mesenchymal tissue at the apex of the tooth. Normal guinea pig molars have four sites of new periodontal fibre formation. Some fibre bundles erupt with the tooth and disappear when they reach the oral epithelium. No detectable fibre changes were observed in the pigs with moderate scurvy (0.4 mg. ascorbic acid daily) but the same animals had grossly distorted dentine. In severe scurvy (no ascorbic acid) new collagen fibres failed to form but fibres formed prior to the deficiency remained, indicating that the defect was lack of fibre formation rather than dissolution of existing fibres.

Two additional cell layers migrate occlusally with the erupting teeth. After enamel maturation is completed, one layer of reduced ameloblasts and one layer of stratum intermedium cells are carried occlusally, in between fibre bundles of the periodontal membrane. Just below the oral epithelium the stratum intermedium cells divide to form a tissue which is similar to that of the oral mucosa.

It is interesting to note that the stratum intermedium cells, which in the embryo

were derived from the oral epithelium, eventually return to the oral mucosa and retain their ability to differentiate into stratified squamous epithelium.

In severely scorbutic guinea pigs the stratum intermedium cells proliferated more extensively and at a lower level on the tooth and in some instances a keratin layer was formed. Other experimenters had misinterpreted this as pocket formation originating at the oral epithelium.

Examination of skulls and sections revealed that two main forces govern the physiologic movement of guinea pig molars through the alveolar bone.

1. The molars increase in diameter as the animals age.
2. The first molars curve bucco-lingually on their long axis but the curvature decreases progressively in the second, third and fourth molars.

Occlusal forces acting on the curved, expanding teeth produce a predictable pattern of bone resorption and deposition on the walls of the tooth sockets. When this pattern was charted it became possible to determine that guinea pigs receiving 0.4 mg. ascorbic acid exhibited some abnormal bone resorption after 75 days but not after 48 days. Alveoli of animals receiving no ascorbic acid showed a generalized bone resorption and bone formation ceased. Bone resorption was more pronounced in areas where the tooth pressed against the alveolus.

Journal of Dental Research St. Louis.
Vol. 38—No. 2—March-April 1959.

Copies of the 1959 C.D.A. DIRECTORY are now available from C.D.A. headquarters at
\$1.00 each.

Survey of Dental Practice — 1958

I—INTRODUCTION

To help meet the increasing demand from many sources—governments, health agencies, and others—and for the benefit of its own members, the Canadian Dental Association conducted this Survey of Dental Practice for the year 1958.

In dealing with organizations staffed with experts in statistics it is not possible to argue on the basis of what you think. You must know, and be prepared to substantiate your case with reliable statistical data. For instance, in health legislation the discovery of errors in your data after the health plan has been legislated into action is too late and could prove awkward for dentistry.

Individual practising dentists should be interested in the survey results. Income and expense statistics are related to various factors pertaining to the operation of dental practices. For example, analysis shows that income varies according to such factors as length of appointments, personnel, number of chairs, type of equipment, and others. Facts about the number of patients served per year, average number of sittings per patient, and number of hours dentists work are important in planning dental health programs.

The Canadian Dental Association co-operated with the Dominion Bureau of Statistics in a survey concerning 1941-2-3-4. A comprehensive survey of Canadian dental practice in 1953 was conducted by the C.D.A. and its

results have been widely accepted. For better comparisons, this latest survey, concerning dental practice in 1958, was conducted in almost exactly the same way as the one five years earlier.

Questionnaires were printed in both English and French and were mailed by February 13, 1959, to 5,698 Canadian dentists. An explanatory letter and postage paid return envelope were included. By April 30th, deadline for return of completed questionnaires, almost 40% had been returned. Excluding those discarded for such reasons as being illegible, 2,228 replies were included in the tabulation. Of the questionnaires distributed, the following percentages show the response from across the country:

Newfoundland	58%
Prince Edward Island	33
Nova Scotia	28
New Brunswick	25
Quebec	26
Ontario	36
Manitoba	30
Saskatchewan	45
Alberta	42
British Columbia	36
All Canada	39

In the 1953 survey, about 31% of the dentists across Canada replied, compared with 39% in this latest survey. This is considered to be a satisfactory sample to produce accurate results.

Part II deals with income related to age and location. Results of other parts of the survey will be published serially in the Journal. At the end of the series, reprints of the complete report of the 1958 survey will be available.

II—INCOME RELATED TO LOCATION AND AGE

(In the tables to follow, "mean" income means "average" income. It is obtained by adding all incomes, then dividing by the number of incomes added.)

Net income in this survey includes all receipts from dental services rendered by the dentist, less expenses, and before deducting income tax. Considering the response from various geographical areas and age groups, and other factors, it can be said that the respondents constitute satisfactory representation of all Canadian dentists. In other

words, it is possible to apply the results of this survey to all dentists practising in Canada.

The average independent dentist in 1958 grossed \$19,765 (\$14,617)* from his practice. He paid professional expenses of \$8,505 (\$6,708) and netted \$10,453 (\$7,541). Before allowing for income tax and "fringe benefits," he retained 52.9 cents (51.6) of each dollar taken in. Net incomes ranged from an average of \$6,369 in Prince Edward Island to \$11,855 in British Columbia. In 1953, the average net incomes of independent dentists ranged from a low of \$5,816 in Quebec to \$9,313 in Saskatchewan.

It is not possible to balance some of the figures shown in the tables which follow. For instance, in Table 1 addition of mean net income plus mean expenses will not produce the result shown for mean gross income. The reason for this is that not all respondents completed all parts of the questionnaire. As an example, some entered a figure for net income but did not enter gross income or mean expenses; others entered two of these three facts and not the third, and so on.

TABLE 1
Mean Income of Independent Dentists by Province
1958

Province	Mean Net Income	Mean Expenses	Mean Gross Income	Mean Net as % of Mean Gross
Blank	\$12,486	\$ 8,226	\$20,888	60.0%
British Columbia	11,855	9,865	23,081	51.4
Alberta	10,820	8,588	20,138	53.7
Saskatchewan	11,522	10,183	24,397	47.2
Manitoba	10,279	8,447	19,716	52.1
Ontario	10,913	8,660	20,125	54.2
Quebec	8,475	7,136	16,299	52.0
New Brunswick	9,732	8,641	18,440	52.8
Nova Scotia	8,681	6,708	16,501	52.6
Prince Edward Island	6,369	4,757	11,354	56.1
Newfoundland	9,100	9,306	18,745	48.5
Canada	10,453	8,505	19,765	52.9
Salaried Dentists				
Mean Net Income	7,529			

C.D.A. survey of dental practice 1958

*Throughout this report, figures in brackets refer to the survey of 1953.

TABLE 2
Median Income of Independent Dentists
1958

Province	Median Net Income	Median Expenses	Median Gross	Median Net as % of Med. Gross
Blank	\$ 8,000	\$ 9,046	\$18,000	44.4%
Newfoundland	9,969	10,488	21,115	47.2
Prince Edward Island	5,662	2,950	8,290	68.3
Nova Scotia	9,500	7,000	16,000	59.4
New Brunswick	9,454	7,000	17,000	55.6
Quebec	8,198	6,500	15,016	54.6
Ontario	11,130	8,351	20,000	55.7
Manitoba	10,850	8,053	19,000	57.1
Saskatchewan	12,106	9,356	22,377	54.1
Alberta	11,500	9,109	20,353	56.5
British Columbia & Yukon	12,500	10,000	22,839	54.7
C.D.A. survey of dental practice 1958				

TABLE 3
Percentage of Distribution of Dentists by 1958 Income Level

Net Income Level	All Dentists	Independent Dentists	Salaried Dentists
Blanks	7.3%	8.6%	2.2%
1 - 949	.9	.7	1.6
950 - 1,949	1.3	1.6	
1,950 - 2,949	1.9	1.6	3.2
2,950 - 3,949	2.6	2.4	3.8
3,950 - 4,949	2.9	2.7	2.9
4,950 - 5,949	4.4	4.3	4.5
5,950 - 6,949	6.2	4.4	17.5
6,950 - 7,949	6.9	5.5	15.6
7,950 - 8,949	9.3	6.7	25.2
8,950 - 9,949	7.7	7.1	11.5
9,950-10,949	8.1	8.6	5.5
10,950-11,949	6.2	7.0	1.9
11,950-12,949	5.9	6.6	2.2
12,950-13,949	5.2	5.8	.3
13,950-14,949	4.4	5.2	.6
14,950-15,949	4.2	4.8	.3
15,950-16,949	2.6	3.1	.3
16,950-17,949	2.5	2.6	
17,950-18,949	2.7	3.1	.3
18,950-19,949	1.2	1.3	.6
19,950-24,949	3.4	4.1	
24,950-29,949	.9	1.1	
29,950 & up	.9	1.1	
Total	100.0	100.0	100.0
C.D.A. survey of dental practice 1958			

TABLE 4
Mean Net Income of Independent Dentists by Size of City
1958

City Size	Per Cent of Respondents	Mean Net Income
Blanks	1.1%	\$ 7,338
Under 1,000	1.0	5,794
1,000 - 2,500	3.7	6,663
2,500 - 5,000	6.2	8,079
5,000 - 10,000	8.2	9,671
10,000 - 25,000	13.9	10,750
25,000 - 50,000	10.5	11,192
50,000-100,000	8.9	11,789
100,000-250,000	14.1	11,533
250,000-500,000	9.0	11,415
500,000 & over	23.4	10,294
Total	100.0	

C.D.A. survey of dental practice 1958

The median referred to in Table 2 is the middle income when all incomes reported are ranked in order from highest to lowest. This information was not tabulated from the 1953 survey; so no comparison is possible.

Table 3 shows that in 1958 slightly more than half of the independent dentists in Canada had net incomes between \$6,950 and \$14,949. In 1953 almost the same number of independent dentists netted between \$4,950 and \$10,949. Just over 21% of independents netted more than \$14,949 in 1958 whereas only 20% exceeded \$10,949 in 1953.

Of full time salaried dentists, approximately 69% earned between \$5,950 and \$9,949 in 1958. Approximately 69% of salaried dentists averaged between \$4,950 and \$7,949 in

1953. The largest single group, representing 25% of salaried dentists, received between \$7,950 and \$8,949 in 1958. The percentage of salaried dentists receiving more than \$10,949 is small, 6.5%, but is up from 1.2% in 1953.

Table 4 shows that 23.4% (21.3%) of Canada's dentists are located in cities with populations of 500,000 or more. 19.1% (25.2%) practise in areas of 10,000 or less population. The highest average net income was in cities of 50,000 to 100,000 (250,000 to 500,000) people. Average net income in areas with less than 10,000 population is noticeably lower than the more highly populated areas, although dentists in cities of more than 50,000 people rank sixth highest in order of net incomes as shown in Table 4.

TABLE 5
Mean Income of Dentists by Age
1958

AGE	ALL DENTISTS	INDEPENDENT DENTISTS			SALARIED DENTISTS
	Mean Net Income	Mean Net Income	Mean Gross Income	Net as % of Gross	Mean Net Income
Blank	\$12,120	\$12,381	\$22,127	56.0%	\$6,900
Under 25	3,065	2,639	7,170	36.8	3,776
25-29	7,799	8,506	16,507	51.5	5,258
30-34	11,767	12,167	22,144	54.9	7,633
35-39	11,606	12,098	22,318	54.2	8,166
40-44	11,301	11,666	22,242	52.5	8,543
45-49	11,635	12,044	24,178	49.8	9,302
50-54	10,427	10,701	19,082	53.7	8,956
55-59	9,694	9,888	19,910	49.7	8,628
60-69	7,587	7,526	14,631	51.4	7,869
65-69	6,699	6,515	12,114	53.8	8,236
70-74	4,909	4,912	9,517	51.6	4,886
75-	1,294	1,406	8,938	15.7	733

C.D.A. survey of dental practice 1958.

TABLE 6
Independent Dentists
1958 Net Income Related to Year of Graduation

Year of Graduation	Mean Net Income
Blanks	\$10,407
1903	1,004
1904-1908	4,276
1909-1913	4,887
1914-1918	7,383
1919-1923	7,133
1924-1928	9,583
1929-1933	11,670
1934-1938	11,374
1939-1943	11,666
1944-1948	11,982
1949-1953	12,423
1954-1958	8,370

C.D.A. survey of dental practice 1958.

TABLE 7
Estimated Total Income of Dentists in Canada
(Thousands of Dollars)

	1953	1958
Number of independent dentists	4,950	5,311
Number of salaried dentists	350	439
Gross income of independent dentists	\$72,354	\$105,083
Net income of independent dentists	37,328	55,575
Income of salaried dentists	2,024	3,283
Total net income of all dentists	39,352	57,362

C.D.A. survey of dental practice 1958.

Relating income to age, as in Table 5, the highest average net income, \$12,167, was reported by independent dentists in the 30-34 age group. This group is followed closely by the 45-49 group and the 35-39 group. The highest ranked group in 1953 was the 35-39 age group, averaging net income of \$9,272. In the five-year interval between surveys, dentists in that 35-39 group have become the 40-44 group of the 1958 survey. It is interesting to note that this group which was highest in 1953 is now in fourth place in this table. The total variation in net income between ages 30-49 is only about \$500. From age 50 on, there is a significant drop in net income.

Since dentists graduate at various ages, Table 6 is presented to relate income to the number of years in practice as indicated by the year of graduation. The dentist who graduated in the years 1949 to 1953 earned

the highest net income during 1958, with graduates of 1944-48 ranking second. In 1953, 1939-43 grads ranked first, followed by grads of 1934-38. In 1953, dentists practising 10 to 15 years showed highest net incomes. The current survey shows dentists who have been practising 5 to 10 years with highest net incomes.

It should be emphasized that the dollar amounts shown in Table 7 are estimates. These estimates have been made by applying the survey results to the known total numbers of salaried and independent dentists in Canada in 1958. Therefore, since 1,914 independent dentists reported net incomes totaling \$20,007,000, it is estimated that the 5,311 independent dentists in Canada netted \$55,575,000. By the same method, it is calculated that the total net income of all dentists in Canada in 1958 was \$57,362,000.

Part III of the 1958 survey concerns the relationship of income to types of equipment used and to time spent in dental offices. It will appear in the November issue.

EDITORIAL

Auxiliary Personnel

Approximately eighty-seven per cent of Canadian dentists engaged in private practice employ at least one full-time assistant. To most of these men the thought of permanently losing their assistants is frightening.

There are times when it is important to understand the pleasant and encouraging things of practice, lest they be taken for granted or completely ignored. The satisfaction and happiness derived from practising dentistry would be sorely diminished and the burden of our professional responsibility almost unbearable, without the immeasurable loyal co-operation of auxiliary personnel. The ugly prospect of conducting our daily practices without either our dental nurse or assistant, or our laboratory technician, is one we refuse to contemplate. Because of their faithfulness over the years, many of us tend to take their services and loyalties for granted, showing only the meagerest material appreciation and a required degree of verbal acknowledgement.

The dental nurse differs from the dental assistant in that she possesses a diploma assuring her future employer that she has received special training in her chosen field. The dental assistant has not attended such a diploma course but has received training directly from her employer, from attending short courses usu-

ally given in the evenings, and by attending lectures and clinics arranged by local associations. These ladies of dentistry whether diploma or experience trained, bring to our profession not only needed strength and assistance but as well, a dignity and freshness so very important to office morale and public relations. Certain large organizations such as the Bell Telephone Company of Canada know the importance of politeness and efficiency when dealing with the consumer public. Those who have dealt directly with such companies know that it is possible to come away almost happy to have paid for courteous service. Your assistant is to your patients a goodwill ambassador and an inseparable part of dentistry. Her contact with patients therefore reflects upon you and upon dentistry. The intensity of their studies during meetings and conventions, their co-operative efforts to convene in conjunction with the larger dental meetings and the individual contributions, respect and loyal deportment of these ladies, deserve realistic appreciation and our sincerest commendation.

A different supportive role less dramatic because of its back room environment but equally important, is that played by the recognized dental technician. These are the people who enable dentists to offer highly technical and rather well rewarded

services to patients. Frequently our technicians are provided with the scantiest materials from which they are expected to create a prosthetic device that will satisfy under close scrutiny both functional and aesthetic requirements. Seldom are we disappointed with the end result and just as seldom do we show our appreciation for these services in anything more than a perfunctory manner. The reason for this unrealistic relationship between dentists and technicians may be in some way related to the past when the replacement of missing teeth was overemphasized. Public esteem of these services may well have been thrown out of balance. We all enjoy a certain degree of satisfaction in having our best efforts lauded but this sacred cow emphasis placed upon prosthetic dentistry in the past seems to have hindered us from openly sharing with our technicians the satisfaction won from these services. A great deal can be done

to enhance the understanding between the dental profession and recognized dental laboratories and technicians. Providing the most accurate materials possible, accompanied by written details and instructions, equitable financial agreements and genuine appreciation of their services, will do much toward showing our gratitude for years of loyal support.

We have added to our personnel the dental hygienist. Perhaps the current challenging task in dentistry of making dental care increasingly available, will assure us of utilizing their training as liberally as possible and prevent unwarranted curtailment of their services.

The willing and worthwhile contributions of these members of the dental team, offer Canadian dentists an opportunity of viewing the future optimistically. These are but some of the many agreeable aspects of private practice — well worth protecting.

CORRESPONDENCE

To the Editor:

A question on the role of science and the scientist in our Atomic Age which I recently submitted to Dr. Mortimer Adler, co-author of "The Great Books of the Western World" was chosen to be answered in the August 8th internationally syndicated column. This made me the proud recipient of a 54-volume set of "The Great Books" and The Syntopicon—a comprehensive index of 3000 topics and the classification of 102 ideas spanning 3000 years of Western thought from Homer and the Bible to the 20th Century.

The question I posed expressed my concern over the fact that the fields of inquiry which attract the majority of students today are the ones that are of practical value and offer immediate rewards in industrial or professional pursuits. Science has perfected instruments without number without the scientist concerning himself with interpreting their good or evil intent.

It has always seemed to me that men of science have concentrated too much on methods and techniques, rather than on broadening the scope of their understanding of man

and the universe. The tragedy of all this lies in the fact that the detachment and impartiality of the scientist dealing mainly with material phenomena has divorced him from the problems of life which are basically moral and spiritual. Who can deny that while knowledge has increased immeasurably in the present century, wisdom seems to have decreased.

It is foolhardy and prodigal to waste the accumulated brain-power of the past, in the fields of philosophy, for it could make the most powerful ally with modern science, for the good of mankind. Re-assessing and re-appraising the wisdom of the greatest men both in the distant and intermediate past could orient us towards purposeful ends. The great need is for Philosophers of Science—both as teachers and in the field as well.

With "The Great Books" now on my library shelves, I look forward to a life enriched by conversations with the great men of the past. I invite my colleagues in the dental profession to join me in this program of self-improvement.

M. L. Dymont, D.D.S., Toronto, Ont.

CANADIAN DENTAL ASSOCIATION RETIREMENT SAVINGS PLAN

Statement of Unit Valuations as of August 31, 1959

GOVERNMENT BOND FUND

Investment at market value	\$ 43,459.81
Accrued income (interest)	197.07
Cash on deposit	16.38
TOTAL	\$ 43,673.26
Less: Administration fee— $\frac{1}{8}$ of 1% of \$43,673.26	54.59
TOTAL MARKET VALUE	\$ 43,618.67
UNITS OUTSTANDING	4,564.438
Unit Value of Fund	\$ 9.556

CORPORATE BOND FUND

Investments at market value	\$102,825.14
Accrued income (interest)	498.18
Cash on deposit	26.52
TOTAL	\$103,349.84
Less: Administration fee— $\frac{1}{8}$ of 1% of \$103,349.84	129.19
TOTAL MARKET VALUE	\$103,220.65
UNITS OUTSTANDING	10,102.270
Unit Value of Fund	\$ 10.217

COMMON STOCK FUND

Investments at market value	\$201,018.90
Accrued income (interest)	—
Cash on deposit	235.43
	(DR)
TOTAL	\$200,783.47
Less: Administration fee— $\frac{1}{8}$ of 1% of \$200,783.47	250.98
TOTAL MARKET VALUE	\$200,532.49
UNITS OUTSTANDING	16,292.855
Unit Value of Fund	\$ 12.308

Trustee: The Royal Trust Company

Information about the C.D.A. Retirement Savings Plan is available from Mr. J. T. Staddon, 2249 Yonge St., Toronto 7, Ont. Telephone HU. 1-5731.

THE ASSOCIATION

F.D.S.R.C.S to C.D.A. Secretary

During special ceremonies in London in July, Dr. Don W. Gullett, Secretary of the Canadian Dental Association, was awarded an honorary Fellowship in Dental Surgery by the Royal College of Surgeons of England.

Dr. W. Scott Hamilton received the same honour several years ago and was present at the ceremonies this year to receive the fellowship personally.

On behalf of the C.D.A., Dr. Gullett presented the president of the College with an illuminated scroll. Many such scrolls were presented by national associations represented at the ceremonies which celebrated the centenary of the Licentiate in Dental Surgery of the R.C.S.

Queen Elizabeth Research Fund

To mark the occasion of Her Majesty's visit to Canada, the government has passed Bill C-65, the Queen Elizabeth II Canadian Research Fund Act.

The Act provides for the establishment and administration of a fund to aid in research on the diseases of children. The Canadian government has appropriated one million dollars to start the fund.

Dr. W. G. McIntosh, recently elected president of the Canadian Dental Association, wrote to the Minister of National Health and Welfare requesting that consideration be given to dental diseases. His letter said, in part:

"The Canadian Dental Association has largely concentrated research effort in the preventive field and consequently believes that this fund offers opportunity not available up to the present time. In our opinion dental disease should have important consideration in carrying out the intent of this legislation. In the event that representation is to be granted those health organizations concerned, we request consideration."

The Minister has replied indicating that when administration of the fund is set up, full consideration will no doubt be given Dr. McIntosh's request.

"Father of Fluoridation" Dies

Dr. William L. Hutton, 70, an honorary member of the Canadian Dental Association, died recently in Brantford, Ontario.

Dr. Hutton was medical officer of health in Brantford for almost forty years before his retirement last fall. He won international recognition as a pioneer in diphtheria control and water fluoridation. It was largely through his efforts that Brantford in 1945 became the first Canadian city to fluoridate its water supply.

At the C.D.A. annual meeting in 1957 at Winnipeg, his birthplace, Dr. Hutton became the only non-dentist to be made an honorary member of the C.D.A. In presenting the award, Dr. K. M. Johnson, then C.D.A. President, said, "Dr. Hutton's vision and desire for public welfare has enabled our profession to carry to success the greatest experiment on fluoridation of communal water supplies ever attempted".

Saskatchewan Offers Bursaries

Financial assistance up to \$1,000 for each bursary is being offered by the Saskatchewan Department of Public Health for the 1959-60 academic year.

The bursaries are available to dental students entering their fourth year of study in any recognized dental school beginning with the 1959 fall term. Preference will be given to applicants who are residents of Saskatchewan. Selection of applicants will be made by the College of Dental Surgeons of Saskatchewan and the Saskatchewan Department of Public Health.

Applicants must agree to practise dentistry in Saskatchewan, excepting in the cities of Regina, Saskatoon, Moose Jaw and Prince Albert, for two years following graduation.

Initially, four bursaries will be offered for fourth year students only, but it is hoped to expand the assistance in future. Further details are available from the Secretary, Bursary Committee, Department of Public Health, Provincial Health Building, Regina.

C.D.A. Retirement Savings Plan

The deadline for mailing application to join the C.D.A. Retirement Savings Plan has been changed from December 31 to February 15th.

This change means that it is now possible to enter this plan after assessing your income tax position for the year. Now it is possible not only to make deposits up to February 15, 1960 (respect of 1959 income) but also to become a member of C.D.A.R.S.P.

Applications and full information about the retirement savings plan are available from the administration office at 2249 Yonge Street, Toronto 7.

Denturist Legislation Fails in U.S.

Legislative activities of "denturists" in the United States appear to have ended for this year. Bills of enactment have been introduced and failed in California, Georgia, Illinois, Michigan, Nevada, Oklahoma and Washington.

Survey of Dental Practice

The first of the data derived from the recent survey conducted by the C.D.A. appears in this issue.

BOOK REVIEWS

Complete Dentures—4th Ed.—by Merrill G. Swenson, D.D.S., F.I.C.D., F.A.C.D., in collaboration with Charles J. Stout, D.M.D., St. Louis, 1959. The C. V. Mosby Company. Pages 682, illustrated, indexed. Price \$13.50.

For many years Dr. Merrill Swenson has been considered to be one of the outstanding educators in prosthodontics whose articles and books have always merited their widespread popularity and use. This newest edition of the well and favorably known text book, "Complete Dentures" provides some improvement in the more readable type that has been used, and the greater use of paragraph headings makes for easier reference. As in the earlier edition, the colored anatomical illustrations are excellent, as are the black and white illustrations, which have been reduced in number slightly.

Terminology throughout has been revised to agree with that proposed in the Glossary of Prosthodontic Terms issued by the Academy of Denture Prosthetics. There is a convenient glossary at the end of the book.

New material in this edition is extremely limited, which is disappointing in view of

the advances in research, materials and techniques since the previous edition. Aesthetic requirements, for example, receive no more attention than previously, despite the greatly increased interest in this phase of complete dentures.

In the first chapter there is a quotation from Dr. Wm. T. Fisher's article on geriatric nutrition, and in the chapter on vertical dimension there is reference to, and illustrations from, an article by McKevitt. These, plus reference to a circular slide rule for the selection of tooth moulds, pretty well constitute the new material. Otherwise the text and illustrations are the same as in the earlier edition. In fact, one is inclined to view it as a reprinting rather than a revision.

Despite the lack of change, this textbook retains its position as one of the leading reference books on the subject of complete dentures. While one may not agree with all phases of the various techniques described, there is an abundance of information and detail that is rarely found in texts of this kind. It is a book worth possessing and a most valuable reference text for the dental student.

K. M. Kerr.

THE LIBRARY

ADDITIONS

- AMERICAN ACADEMY OF PERIODONTOLOGY. Undergraduate periodontology. Proceedings of a workshop for teachers in periodontology, edited by Harold G. Ray. San Francisco, University of California, June 23 to 25, 1958. 105p.
- BERNIER, J. L. The management of oral disease; a treatise of the recognition, identification, and treatment of diseases of the oral regions. 2nd ed. St. Louis, Mosby. 1959. 875 p. illus. \$15.00.
- BUCHHEIMER, N. Let's go to a dentist. Illustrated by Ruth Van Sriver. New York, Putnam's Sons, 1959. 47 p. \$1.95.
- COHEN, R. A. The history of The Birmingham Dental Hospital and Dental School, 1858-1958. 40 p. illus.
- CROSS, M. E. Orally speaking; a brief history of dentistry and the part The M. F. Patterson Dental Supply Co. has played in it throughout the greater part of the west during the past eighty years. Minneapolis, The Webb Publishing Co. 1957. 180 p. illus. \$3.50.
- DAVIS, A. Let's eat right to keep fit. New York, Harcourt, Brace and Co. 1954. 322 p. illus. \$4.00.
- DENTAL CLINICS OF NORTH AMERICA, July 1959. Symposia on I. Interceptive orthodontics, II. Problems of oral and facial pain. Philadelphia, Saunders, 1959. 312 p.
- DENVER RESEARCH INSTITUTE. University of Denver. Proceedings of the seventh annual conference on industrial applications of x-ray analysis, August 13th-15th, 1958. Denver, Colorado. Edited by William M. Mueller. 395 p. illus.
- GOLDMAN, H. M. & BURKET, L. W. Treatment planning in the practice of dentistry. St. Louis, Mosby, 1959. 305 p. illus. \$6.50.
- HESS, W. C. & MUHLER, J. C. Laboratory manual of biological chemistry. St. Louis, Mosby, 1959. 118 p. \$2.25.
- HOSKINS, M. M. & BEVELANDER, G. Outline of histology. 4th ed. St. Louis, Mosby, 1959. 306 p. illus. \$4.50.
- KOHLHAAS, O. A. & KOHLHAAS, R.M. A comprehensive chronological evaluation of dental handpiece mechanisms. Pennsylvania, The Rok Publishing Co., 1957. 25 p. \$2.75.
- KRUGER, G. O. Textbook of oral surgery. St. Louis, Mosby, 1959. 573 p. illus. \$12.75.
- MUHLER, J. C. Ed. Textbook of biochemistry for students of dentistry. St. Louis, Mosby, 1959. Illus. \$9.00.
- THE J. M. NEY COMPANY. New bridge and inlay book: a combination edition including material from practical application of hydrocolloid. 2nd ed. Hartford, Connecticut. The J. M. Ney Company, 1958. 190 p. illus. \$2.50.
- NYLEN, M. U. & SCOTT, D. B. An electron microscopic study of the early stages of dentinogenesis. Washington, Government Printing Office. 1958. 55 p. illus. 45c.
- OSBORNE, J. & LAMMIE, G. A. Partial dentures. 2nd ed. Oxford, Blackwell Scientific Publications, 1959. 446 p. illus. \$12.50.
- PEDIATRICS CLINICS OF NORTH AMERICA. Symposium on handicaps and their prevention. Carl C. Fischer, consulting editor. Philadelphia, Saunders, 1957. 206 p. illus. \$3.75.
- RIFFLE, A. B. The mouth; its clinical appraisal. Montreal, Lippincott, 1959, 118 p. illus. \$3.50.
- RUSHTON, M. A. & COOKE, B. E. D. Oral histopathology; a manual for students and practitioners of dentistry. Edinburgh, Livingstone. 1959. 190 p. illus. \$5.00.
- SCHNEIDER, R. E. Methods and materials of health education. Philadelphia, Saunders, 1958. 382 p. illus. \$5.00.
- SCHWARZROCK, L. H. & SCHWARZROCK, S. Effective dental assisting. 2nd ed. Dubuque, Iowa, Wm. C. Brown Company. 1959. 563 p. illus. \$8.00.
- SEARS, V. H. New teeth for old. 3rd ed. St. Louis, Mosby. 108 p. illus. \$3.00.
- SILVERMAN, S., Jr. Early detection of oral cancer. (Practical dental monographs, July 1959.) Chicago, The Year Book Pubs., 1951. 31 p. illus.
- SWENSON, M. G. Complete dentures, 4th ed. St. Louis, Mosby, 1959. 682 p. illus. \$13.50.
- SWENSON, M. G. & TERKLA, L. G. Partial dentures, 2nd ed. St. Louis, Mosby, 1959. 389 p. illus. \$10.50.
- WHITE, C. M. Your dentist and you. New York, The American Press, 1958. 91 p. \$2.50.

THE CORPS

Brigadier Baird and Colonel Shillington presented to the Queen

In recognition of their appointments as Queen's Honorary Dental Surgeons, Brigadier K. M. Baird; Director General of Dental Services and Colonel G. B. Shillington, Deputy Director General of Dental Services, accompanied by Mrs. Baird and Mrs. Shillington, were presented to Her Majesty Queen Elizabeth and His Royal Highness Prince Philip at Government House on July 1st.

Captain C. Brown Promoted

Army Headquarters has announced the promotion of Captain C. Brown to the rank of Major effective June 23, 1959.

Major Brown was born in Trinity, Newfoundland and was educated at Acadia University and McGill University where he earned his D.D.S. in 1950. He enrolled in the R.C.D.C. in August, 1952 as a Captain and since that time has served continuously at various units in Prairie Command. He is currently employed at R.C.A.F. Stn., Saskatoon, Sask. Major Brown is married with two children.

Lt.-Col. Butler on Course

Lt.-Col. J. G. Butler of the Directorate of Dental Services is attending a four-month course on advanced dentistry at Walter Reed Army Medical Center, Washington, D.C.

Captain Bryant returns from Overseas

Captain R. J. Bryant of Dauphin, Man., recently returned to Canada after serving with No. 35 Field Dental Unit, Metz, France, for three years and has been posted to R.C.A.F. Station, Portage la Prairie, Man.

Militia Summer Camp

Fifty-two officers from all R.C.D.C. Militia Units in Canada attended the annual summer camp held this year at The R.C.D.C. School, Camp Borden, Ontario, from June 29 to July 4.

In line with the Militia's new role in national survival operations the training was in the form of a course with emphasis on the management of mass casualties and the role of the dentist in national survival operations. Training was also given in general military subjects and R.C.D.C. techniques and facilities including the new mobile clinic.

It is felt that this training was well received by the officers attending and in spite of the fact that they were kept very busy with the course time was found for entertainment and an enjoyable dinner and social

evening was arranged by the Militia Officers at Headquarters Camp Borden, Officers' Mess.

Dental Advisory Staff and Unit Commanding Officers attending the course were:

Colonel J. E. Merritt, ADDS(M), Eastern Command.

Colonel T. J. S. Cooke, ADDS(M), Prairie Command.

Lt.-Col. G. C. MacLeod, CO No. 50 Dental Unit, Halifax.

Lt.-Col. G. L. Ramsey, CO No. 51 Dental Unit, Saint John, N.B.

Lt.-Col. C. E. Woods, CO No. 54 Dental Unit, Ottawa.

Lt.-Col. A. J. Harris, CO No. 55 Dental Unit, London.

Lt.-Col. A. Z. Henry, CO No. 56 Dental Unit, Toronto.

Lt.-Col. A. Mintz, CO No. 58 Dental Unit, Saskatoon.

Lt.-Col. A. D. Fee, CO No. 60 Dental Unit, Edmonton.

Lt.-Col. F. K. Currie, CO No. 61 Dental Unit, Vancouver.

Brigadier Baird Visits Camp Borden

Brigadier K. M. Baird, Director General of Dental Services, visited Camp Borden, Ont., on August 14 and 15 to attend the passing-out parade for the second and third practical phase training of the Regular Officers Training Plans (ROTP) at the RCDC School and Cadet week-end at The Royal Canadian School of Infantry where dental undergraduates take their first summer's training ROTP.

Courses

Major D. H. Hillier of Toronto is attending a nine months' course in public health dentistry at the University of Michigan, Ann Arbor, Michigan.

Major F. D. Charman, Griesbach Barracks, Edmonton, attended a short course in endodontics at the University of Alberta, August 31 to September 3.

Postings

Lt.-Col. W. R. Cunningham—To HMCS "Stadacona," Halifax, N.S., from Camp Borden, Ont. Effective July, 1959.

Major I. W. Susser—To RCAF Station, Greenwood, N.S., from RCAF Station, Portage La Prairie, Manitoba. Effective September, 1959.

Captain J. F. Eadon—To HQ Fort Churchill, Manitoba, from RCAF Station Clinton, Ont. Effective July, 1959.

Captain R. D. Welsh—To HQ BC Area, Vancouver, B.C., from HMCS Naden, Esquimalt, B.C. Effective August, 1959.



Photographed during a meeting of the Sinai Dental Society held August 12, 1959 are dental officers from Canada, Denmark, Sweden, Norway, Brazil and Yugoslavia. The RCDC officers are standing wearing tunics l.r. Capt. J. S. Davis, Florenceville, N.B.; Capt. F. C. Buschlen, Arthur, Ont.; and Capt. J. J. N. Wright, Exshaw, Alta.

Captain E. G. Baird—To Royal Canadian School of Artillery (AA) Picton, Ont., from Dental Clinic, AFHG, Ottawa. Effective July, 1959.

Major W. W. Anglin—To Camp Peta-wawa, Ont., from RCSA (AA) Picton, Ont. Effective July, 1959.

Major L. R. Pierce—To RCAF Station, Downsview, from RCAF Station, Clinton, Ont. Effective August, 1959.

Captain H. J. Cashin—To RCAF Station Winnipeg, Manitoba, from HQ Fort Churchill, Manitoba. Effective July, 1959.

Captain J. L. Bertrand—To RCAF Station St-Jean, Que., from RCAF Station Bagotville, Que. Effective August, 1959.

Captain D. J. Cherry of Coleman, Alberta.
Captain J. E. Leslie of Grande Prairie, Alberta.

Captain P. P. Filiatrault of Quebec City, Que.

Captain A. G. Vachon of Montreal, Quebec.

Captain P. W. W. Kuryllowicz of Toronto, Ont.

Captain R. J. MacLelland of Toronto, Ont.

Captain M. J. Albinati of Falher, Alberta.

Captain A. J. G. Laurin of Hull, Que.

RCDC Association

The Twelfth Annual Meeting of the Royal Canadian Dental Corps Association will be held at the Parkway Motel, 475 Rideau St., Ottawa, on Friday and Saturday, 30th and 31st October, 1959.

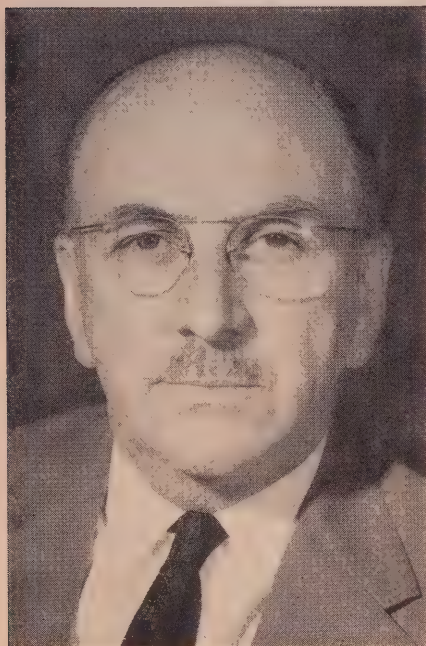
The Annual Dinner will be held in the RCAF Officers' Mess, Gloucester Street, on Friday, 30th October, at 7.30 p.m.

Releases

The following officers have been released from the Corps on completion of their tours of duty:

THE PROVINCES

BRITISH COLUMBIA



Dr. C. R. Hallman, President, College of Dental Surgeons of British Columbia.

College of Dental Surgeons

The newly-elected Council has named these officers:

President—Dr. C. R. Hallman

Registrar—Dr. E. E. Martin

Treasurer—Dr. G. I. Creasy

Executive Members—Drs. W. P. Munsie, N. C. Ferguson and M. J. T. Dohan, with Drs. E. E. Martin and Max Nacht acting in an advisory capacity.

Dental Services in Remote Areas

The Provincial Health Branch, through its Division of Preventive Dentistry, has increased to eighteen its sets of portable dental equipment. This will help to provide much needed dental treatment to forty of the smaller and more remote communities of British Columbia during 1959.

Each set consists of a transportable dental chair and three interlocking cabinets. The latter contain the instrument drawers and cuspidor, and when in transit carry the electric dental engine, operating lights, bracket table and supplies. The latest unit to be built for the Health Branch made extensive use of duraluminum, which had the desired effect of cutting total weight in half.

For this year, plans have been completed to meet every request for dental treatment at outlying points, and again, many dentists will go to communities which they have "adopted" and visited regularly in the past. This summer, six other dentists have agreed to participate in the program.

While each clinic must be organized under the sponsorship of a local body, a large part of the cost is borne by the Provincial Health Branch which makes a grant to the community of 50% of the clinic expenses, and also provides a grant to the dentist towards his travel costs to the point he is visiting.

D.H.M.

NEW BRUNSWICK

Dr. J. D. MacMillan Retires

Dr. J. D. MacMillan of Newcastle, N.B. retired in July shortly before he celebrated his 80th birthday. Dr. MacMillan has been a familiar figure in the town for 53 years, since he opened his office there in 1906 he has ministered to the dental problems of countless Northumberland County people.

Born in New Mills, Restigouche County in 1879, he attended Campbelltown High School and Saint John Business College before going to Baltimore, Maryland, where he graduated in dentistry in 1905 from the dental department of Baltimore Medical College.

After spending two years in Saint John and Fredericton, he went to Newcastle to settle. On completion of 50 years in the practice of dentistry he was presented an engraved tray by the New Brunswick Dental Society.

Dr. MacMillan married a Newcastle girl and they have a family of two sons and three daughters.

ONTARIO

Kenora-Rainy River District Dental Society

Dr. Erwin Schaffer of the University of Minnesota was clinician at a meeting of the Kenora-Rainy River District Dental Society held in July at Fort Frances and International Falls.

Dr. Schaffer, chairman of the department of periodontology at the University of Minnesota, lectured at the Rainy Lake hotel in Fort Frances and also presented a clinical program in the office of Dr. Arthur Ojala, the Falls. Dr. Ojala served as program chairman for the meeting.

Visiting dentists and their wives were entertained at dinner at Island View resort. Dentists attending meeting were from Dryden, Kenora, Sioux Lookout, Red Lake, Fort Frances and International Falls.

QUEBEC

Alpha Omega Fraternity (Montreal Alumni Chapter)

After an enjoyable summer vacation, Alpha Omega Montreal Alumni Chapter will open

the 1959-60 season with a dinner dance at the La Salle Hotel on October 17th. Dr. David Dyen, the national president, will be the guest speaker.

This will be followed by a scientific session on October 20th at Dr. Robert Cohen's, given by various stalwart Alpha Omegas well versed in periodontics, endodontics, oral surgery and operative dentistry.

November 17th is the scheduled date for the A. S. Solomon memorial evening.

Dr. Harry Sicher of Chicago, Ill. will present the all day seminar at the Montreal General Hospital amphitheatre on January 29, 1960. This will be an open meeting with all our confreres invited.

A panel discussion on Practise Administration is slated for February 16th.

The highlight of last year's scientific program was the postgraduate course. This year, a three-day seminar will be given by Dr. Charles Moses, of Toronto, on Complete Denture Prosthesis; March 24th to 26th inclusive.

April 20th, 1960, is the date set for the annual election and business meeting. The season closes on May 14, 1960 with the annual installation dinner.

M. G.

Montreal Dental Club

Early in June, thirty-two members of the Montreal Dental Club were out shedding some of the excess poundage accumulated from a winter of dinner meetings. The event was the annual Spring Golf Tournament, being held at the Knowlton Golf Club in the Eastern Townships. As it has in past years, this sporty little course tamed many fine golfers. Nevertheless, everyone enjoyed the outing tremendously.

The winners were: 1st Low Gross—Dr. R. Harvey; 2nd Low Gross—Dr. G. M. Dundass; 1st Low Net—Dr. R. Dohn; and 2nd Low Net—Dr. J. D. Fenwick. The putting competition was won by Dr. F. Shamy and the Monkey Golf by Dr. E. P. Millar. Dr. A. Humphries from London won the Low Gross competition for guests.

J.D.F.

Copies of the 1959 C.D.A. DIRECTORY are now available from C.D.A. headquarters at \$1.00 each.

GENERAL NEWS

Clinical Hypnosis Panel on Pan American Program for the First Time

Dr. Bernard B. Raginsky of Montreal, Canada, has been appointed President of the Special Panel on Clinical Hypnosis for the program of the 35th Anniversary Congress of the Pan American Medical Association to be held in Mexico City, May 2 to 11, 1960.

Topics to be included in the session which is scheduled for Wednesday, May 4th, during the Congress, are: "Philosophy and Ethics of Hypnosis in Medicine"; "Hypnosis in General Practice"; "Hypnosis in Internal Medicine"; "Hypnosis in Obstetrics and Gynecology"; "Hypnosis in Psychiatry"; "Hypnosis in Anesthesiology"; "Hypnosis in Surgery"; and "Hypnosis in Dentistry".

The forthcoming program marks the first time a session of the Pan American Medical Association Congress has been devoted to Clinical Hypnosis.

The inclusion of the Special Panel on the Congress Program is in keeping with the organization's policy of the enhancement of medical practice through an interchange of medical knowledge and research among physicians and surgeons, dentists, and medical educators in the Western Hemisphere.

Advance registrations for the Congress are now being received by the Pan American Medical Association, 745 Fifth Avenue, New York; or the American Express Company, official Travel Agents for the Congress.

The Congress will cover all branches of medicine, surgery, and dentistry in its 48 Sections, which will also include a Section on Hospital Administration, and a Section on Medical Education.

Dr. John W. Hein to head Tufts University School of Dental Medicine

Dr. John W. Hein has been appointed dean of the Tufts University School of Dental Medicine, in Boston, according to President Nils Y. Wessell. He will succeed Cyril D. Marshall-Day formerly of Auckland, N.Z., who recently announced his retirement from the deanship following a decade of service. Dr. Hein begins his new duties September 1, 1959.

Conference on hospital dentistry to be held at Minneapolis

Six midwest state dental societies and their committees on hospital dental service are being invited to participate in a regional conference to be sponsored by the American Dental Association's Council on Hospital Dental Service Oct. 26-28 at the Leamington Hotel, Minneapolis. They are: Iowa, Minnesota, Nebraska, North Dakota, South Dakota and Wisconsin.

The number of hospitals reporting dental service and the number accredited by the A.D.A. point up the need for stimulating interest in state programs for developing adequate dental services in hospitals, according to Dr. Gerard J. Casey, Council secretary. As of June 1, he said 2,323 out of 6,818 hospitals had established dental services; the dental departments of 530 had been approved by the Council. Of the 800 hospitals in the region involved in the conference, 181 have hospital dental services; the dental departments of 23 have been approved by the Council.

Another vital reason why state societies should give increasing attention to hospital dentistry, Dr. Casey pointed out, is the development of group insurance programs providing dental benefits. "The six state societies invited to the October conference are urged to take advantage of this opportunity to obtain direct assistance in developing their hospital dental programs."

Illinois legislature becomes the seventh to kill 'Denturist' bills

Last of the 1959 crop of "denturist" bills has been killed by action of the Illinois legislature. This brings to seven the number of state legislatures that refused during the year to support measures which would have allowed non-dentists to provide prosthetic services directly to the public. In other action, Illinois legislators modified the Dental Practice Act to require use of written work authorizations in transactions between dentists and commercial dental laboratories as well as biennial registration of dentists with Illinois licenses.

Dr. Frederick S. McKay

Dr. Frederick S. McKay, pioneer investigator of the role of fluorides in dental health, died August 21 in Colorado Springs, Colo., at the age of 85. An extensive bibliography under his authorship tells the story of increasing knowledge of fluorides which began with his early research on the subject. His first complete description of mottled teeth was published with Dr. G. V. Black as co-author in *Dental Cosmos* in 1916. Dr. McKay, who was graduated in 1900 from the University of Pennsylvania dental school, received many honors. He was named a winner in 1952 of the Lasker Award of the American Public Health Association for his "observations for years on the relationship between drinking water, discoloration of teeth and resistance to dental caries." Dr. McKay was an honorary member of American Dental Association.

Circulatory Diseases Major Cause of Dentists' Deaths in 1958

Diseases of the circulatory system accounted for 53.7 per cent of the deaths of dentists during 1958. This statistic is included in a report on causes of deaths of dentists last year issued by the American Dental Association's Bureau of Economic Research and Statistics. Neoplasms caused the second greatest number of deaths with 18.6 per cent, according to the report which covers approximately

two thirds of white male dentists who died in 1958 and is based on material supplied by 36 state departments of health. Diseases of the nervous system and sense organs were the third ranking cause of death with 10.3 per cent. Greatest percentage of deaths, 15.5 per cent, took place in the 80 to 84 year age group, while the lowest percentage, 1.2 per cent, was in the 45 to 49 year category. Dentists dying ranged in age from 28 to 98. The average (mean) age of death was 69.4.

Dr. Pearlman's Testimony on Dentifrice Ads Featured in Article

Congressional testimony given by Dr. Sholom Pearlman, secretary of the Association's Council on Dental Research, in July, 1958, on dentifrice advertising claims is featured in an article in the August 20 issue of *The Reporter Magazine*. Called "The Promoters' Pharmacopoeia," the article by Ralph Lee Smith considers "false and misleading advertising" in four fields including dentifrices. The article cites Dr. Pearlman's comments on advertising claims made when he testified for the Association before the House Subcommittee on Legal and Monetary Affairs. Net effect of testimony by Dr. Pearlman and other Association spokesmen was that current advertising claims for tooth-pastes were misleading and detrimental to the public's dental health.

IN MEMORIAM

William Lorne Hutton — Dr. William Lorne Hutton, Brantford's medical officer of health for 39 years, and until his retirement eight months ago, director of the Brant County Health Unit, died July 30, 1959, in the Brantford General Hospital in his 71st year.

Born in Winnipeg, a son of the late Harvey Hutton and Mary Verity, he was educated at Albert College, Belleville and the University of Toronto, graduating with the degree of Bachelor of Medicine in 1911.

He then joined the regular army, in which he served through the First World War, attaining the rank of major. He was medical officer of the Royal Canadian Regiment. After the war he became Brantford's MOH.

In this capacity he gained international stature as a pioneer in diphtheria control and later in water fluoridation. He was widely and frequently recognized for his achievements in these fields, and was known as the "father of fluoridation in Canada."

Dr. Hutton's active interest in the Dental Profession dates back to August 17th, 1942, when at a special meeting of the Brantford Board of Health to discuss doing something with reference to the appalling condition of the mouths of the children attending Brantford schools. It was suggested that Brantford's water supply be fluoridated.

Dr. Hutton had the happy faculty of doing things which ought to be done, when they should be done (at once).

A fluoridation study was soon started in Brantford and completed without much opposition.

Dr. Hutton was honoured by Honorary Membership by the Canadian Dental Association.

Dr. Hutton is survived by his widow, the former Floss Loney, their daughter, Mrs. G. M. (Mary) Brown of Toronto, five grandchildren, and one brother, H. V. Hutton of Brantford.

Edson M. Wilson—Dr. Edson M. Wilson of Fredericton, N.B., died in July at the age of 90.

Dr. Wilson was born at Cambridge. He graduated from the Baltimore College of Dental Surgeons in 1900, carrying on an active practice from 1920 until 1954 in that city. In 1950 he was made a life member of the New Brunswick Dental Society.

He is survived by his widow; one son, Dr. D. Taylor Wilson; two daughters, Mrs. G. A. Tenant and Dorothy M.; four grandchildren, and several nieces and nephews.

David Iser Siegel—David Iser Siegel of Hamilton, Ontario, died on July 7th. He was 72.

Born in Russia, he went to Boston with his parents, at the age of 3. He received his formal education in Boston and graduated from the R.C.D.S. in 1916.

Dr. Siegel practised for several years in North Bay and Kirkland Lake before taking over a practice in Hamilton 20 years ago.

He is survived by his widow; one son, Dr. Elliott Siegel of Toronto; a daughter, Mrs. A. Takefman; a sister, Mrs. L. Turowsky; one brother, Jonas and four grandchildren.

John Anning Barber—Dr. John A. Barber of Chilliwack, B.C., died on July 4 at the

age of 52. He suffered a heart attack while fishing from the banks of the Hope River at his home.

Born in Chilliwack, he attended public and high schools there. After graduating in 1933 from North Pacific Dental College in Portland, Oregon, he began practising in his home town.

Dr. Barber was a member of Ionic Lodge A.F. and A.M., a charter member and past president of the Rotary Club and a member of the United Church A.O.T.S.

He was one of the founders of the Chilliwack Historical Society and was its treasurer and trustee until last March. His collection of early Chilliwack pictures is regarded as the best pictorial record of early days in the upper valley and were a special feature of the centennial displays in the Chilliwack Museum.

Dr. Barber was not only a charter member of the Fraser Valley Dental Society, but was also the charter president. He was several times on the B.C.D.A. convention program, with clinics on surgery and implant dentures.

Predeceased this year by his mother and by his father, former M.P. for the Fraser Valley, Dr. Barber is survived by his widow, Mabel, a daughter, Dorothy, and a son, Gordon, all at home.

G. J. Eagan—Dr. G. J. Eagan of St. John's, Newfoundland, died on July 11th following a heart attack. He was 57.

Dr. Eagan graduated from St. Louis University in 1929 and practised dentistry in Newfoundland for 30 years.

Surviving is his brother, Rev. Father C. S. Eagan.

William J. Schmidt—Dr. William J. Schmidt of Kitchener, Ontario, died on July 10th following a heart attack.

Dr. Schmidt was born in North Easthope Township, Ontario. He graduated from the R.C.D.S. in 1899 and practised in Kitchener until his retirement.

He was an Honorary Member of the R.C.D.S.

Surviving are his widow, Mabel; one son, William; one daughter, Verna and five grandchildren.

James W. Cail—Dr. James W. Cail of Milton, Massachusetts, died in June following an illness of about six weeks. He was in his 84th year.

Dr. Cail, who was a native of Cail's Mills, Kent County, received his dental degree from a Boston University. He practised in Boston for 50 years.

Surviving are his widow, Elsie Mildred; one brother, Keith, and five sisters.

Clarence Avon Kirkpatrick—Dr. Clarence Avon Kirkpatrick of Grand Falls, N.B., died on July 5th. He was 82.

Dr. Kirkpatrick was born in Debec in 1876. He received his dental degree at the University of Pennsylvania and practised dentistry in Woodstock and Edmundston. For the last 60 years he practised in Grand Falls.

Dr. Kirkpatrick was made an Honorary Member of the New Brunswick Dental Society in 1948. In his earlier years he was active in the community and a past master of the Colebrooke Masonic Lodge, No. 39.

He is survived by one daughter, Grace, and one son, Ralph, both of Grand Falls, and two grandsons.

Colman Henry Nefsky — Capt. Colman Henry Nefsky of Toronto, died on July 15th. He was 42.

Dr. Nefsky graduated from the University of Toronto in 1939.

Arthur Wilmer Greenius—Dr. Arthur Wilmer Greenius passed away on August 18 after an illness of two weeks. He was in his 77th year.

Born in Britannia, Ontario, he graduated in 1910 from North Pacific College, Portland, Oregon. He practised in Cashmere, Washington, for eight years and established his practice in Vancouver in 1918.

Dr. Greenius was a member of Acadia Lodge No. 22, A.F. & A.M., and Past Patron of O.E.S. His hobbies were woodworking and gardening.

Surviving are his widow; one son, Dr. W. O. Greenius, who practised with him; a daughter, and four grandchildren.

Lloyd Alexander Stirling—Dr. Lloyd Alexander Stirling of Toronto, died on September 14th at his office. He was 60.

Dr. Stirling was born in Hancock, Michigan, and moved to Kincardine with his family as a boy. He received his early education in Kincardine and lived there until World War I when he went overseas with the Royal Canadian Engineers. He graduated from the R.C.D.S. in 1923 and opened his practice in Toronto.

During World War II he again enlisted and served as district dental officer for the Toronto area as lieutenant-colonel. He was a member of the R.C.D.S. and a former officer of the Academy of Dentistry.

Surviving are his widow, Jennie; a son, George, a daughter, Joan; three brothers, Wilmer, Howard and Lawrence, and a sister, Mrs. J. A. Thomson.

Stanley Henry Sutter—Dr. Stanley Henry Sutter of Stratford, Ont., died on August 8th. He was 62.

Dr. Sutter was born in Gadshill, Ellice Township in 1897 and received his early education in the township school and later attended the Stratford Collegiate Institute.

In 1915, Dr. Sutter enlisted in the Royal Canadian Army Medical Corps and saw service in France and Belgium with the 11th and 13th Field Ambulances. After his discharge in 1919 he enrolled in the R.C.D.S. and graduated in dentistry in 1923. He opened his practice in Stratford and continued to practice there until forced to retire by ill health.

Dr. Sutter was very active in the fraternal and civic life of the community and was also a staunch supporter of sports and an ardent angler and hunter.

A charter and life member of the Stratford Lions Club, he was its second president in 1926. He was a past master of Stratford Lodge No. 332 A.F. & A.M. and a past chancellor commander of Hamlet Lodge, No. 42, Knights of Pythias. For more than 20 years he served on the Board of Park Management and was a member of the Canadian Legion.

Surviving are his widow, Elsie, a son, Edward; his mother; two brothers, Harry and John, and two sisters, Clara and Edna.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 25th-28th
1962	Vancouver, British Columbia	June 3rd-6th
1967	Toronto, Ontario	May

(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
Oct. 26, 1959	Academy of Dentistry Annual Dinner	Royal York Hotel, Toronto, Ont.	Dr. R. M. Grainger,	Faculty of Dentistry, 124 Edward St. Toronto.
Oct. 28-30, 1959	Montreal Dental Club 34th Annual Fall Clinic	Queen Elizabeth Hotel, Montreal.	Dr. B. Ward,	1414 Drummond St., Ste. 309, Montreal.
Nov. 26, 1959	Annual Winter Clinic of Academy of Dentistry	Royal York Hotel, Toronto, Ont.	Dr. R. M. Grainger,	Faculty of Dentistry 124 Edward St., Toronto, Ont.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.

UNIVERSITY OF TORONTO — POSTGRADUATE COURSE IN PAEDODONTICS

A two day postgraduate course in Paedodontics will be presented at the Faculty of Dentistry, University of Toronto, Toronto, Canada, January 11th and 12th, 1960. The course will be under the general direction of Professor S. A. MacGregor, and emphasis will be given to a discussion of practical methods of preventing malocclusion.

Tuition Fee \$40.00

Enrolment Limit 10.

Address enquiries to: The Chairman, Division of Postgraduate Studies, Faculty of Dentistry, University of Toronto, Toronto, Ontario, Canada.

UNIVERSITY OF ALABAMA

A Refresher course in "Preventive Orthodontics" — December 12, 13, and 14, 1959.
For information please write to: Director, Refresher Course Program, University of Alabama School of Dentistry, 1919 Seventh Ave. South, Birmingham 3, Alabama.

TUFTS UNIVERSITY SCHOOL OF DENTAL MEDICINE

Postgraduate Refresher Courses

Clinical Endodontics — Six Fridays — November 6, 13, 20; December 4, 11, 18, 1959.
Hospital Management for the Dental Patient — January 6, 7, 8, 1960. Tuition \$75.00.
Trouble Shooting in Full Dentures — January 6, 19, 20, 1960 — Three Wednesdays.
A Demonstration Course in Full Upper and Lower Dentures—February 11, 12, 13, 1960.
Minor Oral Surgery — Each Wednesday for Six Weeks from March 2 to April 6, 1960 — Tuition \$150.00.
Tooth and Denture Base Aesthetics — March 21, 22, 23, 1960 — Tuition \$100.00.
Full Denture Implants — March 28 through April 1, 1960 — Tuition \$200.00.
A Special Participation Course in Periodontology — April 25 through April 29, 1960—Tuition \$150.00.
Full Denture Prosthesis — June 6 through June 10, 1960 — Tuition \$150.00.

Further information concerning dental meetings outside Canada is available at C.D.A. Headquarters upon request.

L'Association Dentaire Canadienne.

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Etude sur les avantages et les désavantages des accroissements de vitesse du tour dentaire

PAR LÉO RAYMOND, B.A., D.D.S., Chicoutimi, P.Qué.

Le rythme sans cesse croissant avec lequel se propage aujourd'hui l'usage des grandes vitesses en art dentaire, nous amène à réfléchir sur le sujet, et à nous poser, à la suite de Brochère, la question suivante⁽¹⁾: "Faut-il *encore* considérer les expériences qui se font dans ce domaine comme pouvant conduire à de réels progrès, ou ne s'agit-il là que d'une mode qui passera comme tant d'autres?"

Nous pouvons répondre, d'abord, qu'il était nécessaire et urgent d'augmenter le rythme de rotation des moteurs en usage jusqu'à ces dernières années. Ces moteurs continuaient de fonctionner au rythme de la vie d'il y a quarante ans. Ils étaient vraiment trop lents et ne correspondaient plus aux exigences de la vie et de la technique modernes. Mais jusqu'à quel régime de vitesse précisément est-il souhaitable de porter nos instruments rotatifs? Pour le savoir, nous croyons qu'il faut faire une

ÉTUDE SUR LES AVANTAGES ET LES DÉSAVANTAGES DES ACCROISSEMENTS DE VITESSE DU TOUR DENTAIRE.

I

Historique et évolution

Si l'on remonte un peu dans l'histoire de la chirurgie dentaire, l'on remarque que l'année 1871 fût une date importante. Pourquoi? Parce que Morrison, s'inspirant du principe préconisé par Singer et Howe dans leur découverte de la machine à coudre, introduisit le premier tour dentaire à pied. C'était là le point de départ de la courbe de vitesse des machines à fraiser les dents qui n'a cessé et ne cesse encore d'aller en augmentant.

En effet, l'ère de progrès ne devait pas s'arrêter là, puisque, peu de temps après, soit durant la période de 1870 à 1874, G.F. Green préconise ce qu'il qualifiait alors de

"sensational", à savoir le tour électrique. Un second jalon était ainsi ajouté à la trajectoire des augmentations de vitesse qui semblait de plus en plus prendre une direction verticale.

Puis, pendant tout près de trente ans, rien de nouveau n'apparaît sur le marché. Mais, en 1914, la compagnie S.S. White offre aux dentistes le premier "unit", connu sous le nom de "FORSYTH UNIT". Désormais, les dentistes ont un appareil spécifique à leur travail. La nouvelle machine amène une révolution au sein de la profession et tous ceux qui s'en servent se plaisent à pousser le rhéostat à son maximum de potentialité, pour obtenir une vitesse jusqu'alors inespérée, soit 5,000 r.p.m.

Celui qui, par la suite, contribue le plus aux accroissements de vitesse fût Emile Huet, de Bruxelles. "Et il n'est pas concevable, comme dit toujours Brochère⁽²⁾, cette fois dans une communication présentée à la Société d'Odontologie de Paris, le 6 mai 1952, de développer davantage ce point de vue sans citer ce nom."

FAISONS DONC UNE RAPIDE ANALYSE DE SES TRAVAUX

Appareillage: Dès 1913, Huet obtient 7,000 r.p.m. en doublant simplement les pôles de l'inducteur. Pour rendre cet appareil moins dangereux à manier, il réalise un système d'embrayage électro-magnétique qui lui permet d'arrêter immédiatement la fraise ou la meule en la désolidarisant du moteur qui, débrayé, s'arrête seul après épuisement de sa lancée. Il préconise aussi le rhéostat circulaire.

En 1920, il dispose d'un tour qui atteint 9,000 r.p.m. Plus tard, il va jusqu'à 10,000 r.p.m. et il se rend compte qu'à cette vitesse, les fraises qu'il possède ne lui permettent pas les résultats prévus. Il imagine donc, en partant du principe que la fraise n'agit pas comme un "coin" pour soulever un copeau, mais comme un "racleoir", toute une série de dessins de fraises nouvelles, entre autres le forêt Lancéolie".

Huet avait donc orienté le champ des recherches vers un tout autre but, pour pouvoir mieux tirer profit des accroissements de vitesse.

Ce furent les Allemands qui, à la veille de la seconde guerre mondiale, apportèrent la plus grande rénovation dans ce domaine en utilisant les *diamants*. Ces derniers devaient désormais remplacer les fraises d'acier et les pointes de carborandum. On s'aperçut que les diamants travaillaient mieux à de plus grandes vitesses. On tournait vraiment dans un cercle vicieux. On voulut profiter de toutes les possibilités offertes par ces nouvelles fraises. Les premiers pas dans ce domaine furent faits par Walsh et Symmons qui se proposaient d'atteindre une vitesse telle que⁽³⁾ "les vibrations déterminées par l'outil entraîné par ce moteur aient une fréquence assez élevée (au-dessus de 1,000 VB/Sec) pour demeurer au-dessus du seuil de la perception humaine." Ils poursuivent leurs essais avec une *turbine à air* qui diffère totalement de la machine jusqu'alors employée. Ils obtiennent une vitesse de 40,000 à 70,000 r.p.m."

Devait-on s'arrêter là? Non. Des travaux plus audacieux réalisés par des Américains sur des turbines incorporées à des contre-angles de dimensions normales, mues par l'eau sous pression⁽⁴⁾ (Nelson) ou l'air comprimé (Tauner & Mitchell)⁽⁵⁾ ont permis d'atteindre des vitesses proches de 100,000 et même 200,000 r.p.m.

Aujourd'hui, ces appareils à grande vitesse peuvent se classer comme suit⁽⁶⁾:

TYPE I — Contre-angles et pièces à main actionnés par une transmission
Midwest Hy-Drive (jusqu'à 125,000 r.p.m.)
Pièce à main droite à grande vitesse actionnant le contre-angle (injection à l'huile)

TYPE II — Contre-angles et pièces à main actionnés par corde
Pièce à main Page Chayes (jusqu'à 200,000 r.p.m.)

Pièce à main Kerr
à grande vitesse (jusqu'à 150,000 r.p.m.)
Globe (jusqu'à 200,000 r.p.m.)

TYPE III — Contre-angles et pièces à
main actionnés par une turbine à air
Borden (Ritter,
S.S. White) (jusqu'à 300,000 r.p.m.)
Weber (jusqu'à 300,000 r.p.m.)
Densco (jusqu'à 300,000 r.p.m.)
Midwest —
Air Drive (jusqu'à 300,000 r.p.m.)

Disons, pour que cet historique des accroissements de vitesses du tour dentaire, soit complet, qu'un procédé entièrement nouveau fit son apparition en 1945 avec l'Air-Dent de Robert Black. Il ne s'agissait plus d'instruments rotatifs, mais de la mise en jeu de fines particules abrasives projetées violemment sur la dent par un gaz comprimé. Méthode très efficace qui a soulevé un grand intérêt, mais sa technique très spéciale, impliquant la perte du contact dentaire avec l'instrument n'a pas rencontré l'adhésion de tous les praticiens.

Cette utilisation de fines particules abrasives connaît un regain d'actualité avec l'appareil à *ultra-sons*. Que nous réserve-t-il? Nous l'ignorons encore.

La courbe de l'accroissement de vitesse du tour dentaire s'est donc accélérée très rapidement. En sommes-nous à son maximum? Nous le croyons. Le temps, et le temps seul, se chargera de donner une réponse certaine et définitive.

II

Avantages et désavantages de ces accroissements de vitesse en nous servant des écrits et des expériences qui ont été faites

Considérons maintenant les avantages et les désavantages de ces accroissements de vitesses à l'aide de la littérature des expériences réalisées sur le sujet. On ne saurait mieux procéder qu'en donnant une classification des différentes vitesses. Nous empruntons celle de Retchman qui nous semble la meilleure. ^(6a)

- 1) Vitesses lentes: — 0 à 3,000 r.p.m.
- 2) Vitesses normales: — 3 à 11,000 r.p.m.

- 3) Grandes vitesses: — 16 à 30,000 r.p.m.
- 4) Super grandes vitesses: —
au-delà de 30,000 r.p.m.

L'historique nous montre que nos prédécesseurs travaillaient avec des appareils de *vitesse lente*. Quels avantages devaient-ils retirer de la découverte du premier moteur dentaire? Ces bénéfices étaient intrinsèquement liés aux progrès de la science dentaire, puisque c'est grâce à Morrisson que le champ des couronnes et ponts s'ouvre et, comme dit Robert C. McKay, ⁽⁷⁾:

"Il était facile de préparer de meilleures piles quoiqu'elles n'étaient pas encore parfaites. Il y eut une avalanche de traitements de canaux et la couronne façonnée en or connu une vogue extraordinaire. On prenait des brevets partout, comme celui de la couronne en or, en 1873, et de la couronne de Richmond, en 1880. On prenait aussi des brevets sur des techniques de soudure."

De plus, selon McKay, "Ce n'est qu'en 1907, quand le docteur William Taggard fit sa conférence sur 'Une nouvelle méthode précise de couler les incrustations d'or', qu'on tira pleinement profit des avantages du moteur dentaire."

On ne saurait se tromper en affirmant que la plupart des découvertes, qui ont eu lieu durant cette période de changements de vitesses, obturations (incrustations, amalgame, aurifications) couronnes (complètes ou $\frac{3}{4}$) — sont dues en grande partie à l'amélioration du tour dentaire et surtout dans son accroissement de vitesse. Il est incontestable qu'il ne saurait être question des désavantages à cette époque.

A mesure que les vitesses se sont accélérées, des articles de toutes sortes commencent à paraître, tantôt proclamant, tantôt condamnant l'usage de ces hautes vitesses.

Considérons trois facteurs importants qui sont intimement liés aux avantages et aux inconvénients des vitesses ultra-rapides. Ces trois facteurs sont d'ailleurs maintenant reconnus comme étant les caractéristiques propres des super-grandes vitesses, il s'agit de: *CHALEUR — PRESSION — VIBRATION*.

Chaleur

La production de chaleur sur une dent au cours du fraisage avait été étudiée bien avant que le tour dentaire connaisse la vitesse qu'il a aujourd'hui.

Presque tout le travail de certains auteurs^(7a), tels que Henschel⁽⁸⁾, Vaughn et Peyton⁽⁹⁾, Hudson et Sweeney⁽¹⁰⁾ et autres, qui ont écrit sur ce sujet, s'est réalisé à un moment où la vitesse du tour était assez lente; mais les principes qu'ils ont émis sur la protection de la pulpe par le contrôle de la chaleur s'applique à toutes les vitesses, telles que nous les connaissons aujourd'hui.

En 1942, par exemple, Handerson, D. J. et Van Proach, G.⁽¹¹⁾ faisaient remarquer qu'il était facile d'élever la température de la pulpe de 15 à 20°F; ils établissaient ces données à la suite d'une série d'expériences faites sur des molaires saines ex-

traites et gardées dans la formaline pour prévenir leur déshydratation.

"Elles étaient coupées horizontalement, sous le joint énamo-dentinaire, en laissant béante la partie supérieure de la cavité de laquelle on retirait la pulpe. On pratiquait trois ouvertures verticales dans la dentine de la couronne de chaque dent avec une fraise à fissure no 5. On scellait dans la chambre pulpaire, en contact intime avec le dessus de la cavité, une thermomètre approprié. On se servait pour le scellement, tantôt d'amalgame, tantôt de ciment oxyphosphate. Les résultats obtenus avec l'amalgame étaient à peu près identiques, mais l'élévation de température était légèrement plus accentuée quand il s'agissait d'oxyphosphate, à cause de sa faible capacité d'emmagasiner la chaleur. Le thermomètre était fait d'un petit fil compact; ce fil était attaché à un galvanomètre très sensible."

RÉSULTATS							
dent	poids (grms)	TEMPS DE FRAISAGE (secondes)					
		5	10	15	20	25	
II (trou A)	1200	3	7.2	12.6	19.6		élévation de temp.
III (trou A)	800	4	7.6	10.2	12.8	15.6	
III (trou B)	1200	11	15.4	22.8			
IV (trou A)	1200	5.4	10.3	18.8	27.0		
II (trou B)	1200				15.4		
	800				10.0		
	400				8.0		

N.B. Les chiffres de la dent II (trou B) furent tirés dans l'ordre indiqué et la plus forte élévation de température avec 1200 grammes fut occasionnée entièrement par la plus grande pression et non par le contact intime avec la chambre pulpaire.

Ces expériences ont prouvé d'une façon

concluante que l'élévation de température est en rapport avec la pression sur la dent et avec la proximité de la fraise avec la chambre pulpaire.

On a aussi prouvé que des augmentations identiques de température se produisent au cours d'un fraisage intermittent.

Fraisage intermittent

On a comparé l'élévation de température produite par un fraisage continu et

celle occasionnée par un fraisage intermittent. Voici les résultats⁽¹²⁾.

ÉLÉVATION DE TEMPÉRATURE			
dent	temps (secondes)	continu	intermittent
III (A)	10	5.1	4.7
III (B)	10	4.5	..
	20	..	9.4
IV (A)	10	9.0	9.4
IV (A)	15	17.2	15.6
IV (B)	20	17.4	14.9

Ces statistiques confirment l'opinion de Huet qui insistait beaucoup sur l'avantage de travailler par coups, 235 sec, arrêt, 3/5 sec, et ainsi de suite.

Il est évident que le fraisage détermine une élévation de température dans une dent. On savait qu'elle existait et qu'une trop grande chaleur peut causer des dommages à la pulpe. Le problème donc le plus important soulevé par les super-

grandes vitesses en dentisterie est précisément de trouver un moyen de contrôler cette chaleur. Ceux qui tentèrent le plus d'expériences à ce sujet furent Peyton, F. A. et Henry, G. E.

Le meilleur moyen de contrôler cette chaleur, selon eux, était de refroidir la dent avec un réfrigérant (air ou eau). Les résultats obtenus sont assez significatifs. Les tableaux suivants sont éloquent⁽¹³⁾.

*Élévation de température des dents où
1 livre de pression est appliquée à la pièce
à main.*

VITESSE							
Type Inst.	Réfrigérant	2000/	4000/	6000/	8000/	10000	R.P.M.
557 acier	aucun	42	64	78	92	105	
	air	15	22	30	36	40	
	eau	7	7	9	10	11	
557 tungsten carbide	aucun	32	45	59	71	80	
	air	12	17	19	22	23	
	eau	4	5	8	10	11	
701 diamant	aucun	21	30	39	46	52	
	air	9	14	18	22	24	
	eau	2	4	7	8	9	
Type Inst.	Réfrigérant	2500/	5000/	10000/	15000/	R.P.M.	
diamant	aucun	15-20	30-35	65-7-	105-110		
	air	10-15	25-30	52-55	75- 80		
	eau	0- 5	5-10	5-10	11- 15		

Peyton déclare⁽¹⁴⁾: "On a pu noter que les petits instruments en diamant et que les fraises en carbide donnent un bon rendement à une vitesse variant entre 30,000 et 170,000 r.p.m. en leur appliquant durant le fraisage une force de quatre onces. On s'est rendu compte, en utilisant ces petits appareils, qu'un jet d'eau-air ou qu'un jet d'eau rafraîchit suffisamment la dent. Il y a peu de différence dans l'utilisation d'eau à la température environnante ou à la température de la bouche."

Il semble donc, que quelque soit l'instrument employé et quelque soit la vitesse à laquelle le moteur tourne, il semble qu'il n'y ait plus à s'inquiéter des dommages à la pulpe par la friction d'un instrument entraîné à de super grandes vitesses. Toutefois, il est à remarquer que l'emploi d'un réfrigérant reste obligatoire.

Ce qui paraissait être une contre-indication à l'emploi des vitesses très grandes ne l'est plus ou du moins ne paraît plus l'être.

Vibration

Un des grands avantages des machines à grandes vitesses est sans contredit la diminution, pour ne pas dire la disparition complète des vibrations perçues par le patient. Cette raison a d'ailleurs porté les chercheurs à augmenter la vitesse des tours dentaires. Walsh et Symmons voulaient⁽¹⁵⁾ éliminer les sensations désagréables engendrées par les vibrations de la fraise.

Ils entreprirent des expériences sur un "diapason" électrique maintenu entre les dents; ils ont noté que les sensations les plus désagréables pour le patient se situent entre 100 et 256 vib/sec.

Au delà de 1024 vib/sec., aucune sensation. Le problème à solutionner était de trouver une vitesse suffisamment rapide pour que les vibrations imprimées à l'instrument aient une fréquence assez élevée (au-dessus de 1,000 vib/sec) pour demeurer au-dessus d'un seuil de perception humaine. Ils travaillent à une vitesse allant presque à 70,000 r.p.m. et ils observent, que le "meulage effectué au rythme de 40,000 à 70,000 est qualifié de "remar-

quable" par les personnes sur qui il est tenté." Et que doit-on penser de l'amplitude des vibrations à des vitesses encore plus grandes que 70,000 r.p.m.

Peyton, en 1950, dans un article intitulé "Caractères des vibrations dans les instruments rotatifs dentaires" écrit ces lignes⁽¹⁶⁾: "L'amplitude des variations de base, quand la fraise s'enfonce en direction antérieure, décroît en général en proportion avec l'augmentation de la pression. L'amplitude de vibration a une tendance à diminuer, quand la pression est légère, à mesure que la vitesse augmente. Ce comportement est le même, mais moins prononcé, quand la pression est plus forte. Une pression légère et une petite vitesse donnent généralement la plus petite amplitude aux ondes de vibration de base; cette amplitude décroît graduellement de la deuxième à la cinquième harmonique; au-delà de ce niveau, l'amplitude harmonique est la même pour la dent."

Cette vibration, qui jusqu'à ces dernières années était un des cauchemars du patient, est presque disparue grâce aux super grandes vitesses. McKay dit sur ce sujet⁽¹⁷⁾: "Il est certain que les super-vitesses permettent de fraiser la dent sans vibration."

Pression

On ne saurait passer sous silence la question de pression, quand on parle de haute vitesse. L'absence de vibration exercée sur la dent durant le fraisage provient de l'accroissement de vitesse, qui n'exige pas de pression. Pression et vibration travaillent donc en étroite collaboration. Comment évaluer cette pression? McKay, à ce sujet, fait une importante remarque⁽¹⁸⁾:

"Nous réalisons, à l'étude des recherches entreprises depuis quinze ou vingt ans, qu'un grand nombre des auteurs établissent la pression en terme de livres exercées sur la dent durant le fraisage; il est question, dans certain cas, de pressions qui se chiffrent dans quatre livres et plus. Nous calculons aujourd'hui à l'aide d'onces. Il faut trouver dans ce facteur un des grands avantages des tours à grande vi-

tesse. Il suffit d'une pression à peine perceptible et nous pouvons contrôler parfaitement notre appareil, car nous n'avons pas à lui imprimer de force. En consultant la littérature qui traite de techniques utilisées aujourd'hui pour meuler les dents, entre autres les abrasifs à air, le tour ultrasonique, les appareils à air et à eau mus à l'air et à l'eau et les pièces à main actionnées avec une courroie, nous constatons que toutes ces techniques ont deux caractères communs: la facilité de tailler avec le minimum de pression et l'absence de vibration"⁽¹⁹⁾.

Peyton et Henry écrivaient en 1954: "Nous avons observé que la principale réaction de l'opérateur qui se sert en clinique d'un appareil à grande vitesse — peu importe le genre — est d'exercer une pression beaucoup plus légère sur la pièce à main. Tous ceux qui utilisent les tours à super-vitesse s'accordent à dire qu'ils actionnent leur contre-angle ou leur pièce à main comme s'ils se servaient d'un pinceau en poil de chameau; ils l'emploient bientôt par petits coups. Ce toucher à peine perceptible permet un contrôle parfait, qui élimine pratiquement les soubresauts ou le raclage de la fraise ou de la meule. Ce facteur constitue un des plus grands avantages des appareils à super-vitesse."

A la suite de ces deux témoignages ajoutons celui de Marmasse⁽²⁰⁾ qui dit que: "le grand agrément de l'instrument à super grande vitesse réside dans son utilisation sans pression".

Chaleur — Vibration — et Pression sont donc à l'avantage des grandes vitesses.

Si l'on envisage le problème au point de vue pratique, quels avantages retireront des grandes vitesses le dentiste et le patient?

Kilpatrick les a classifiés, dans un article paru dans le P.J.D., novembre et décembre 1958, page 1008.

"Le dentiste y trouve de grands bénéfices:

1) Le patient craint moins les traitements dentaires, car ils ne comportent pas de vibration. Le dentiste travaille plus à son aise.

2) La fraise, grâce à sa faible torsion et grâce aussi à la pression très légère qu'elle exige, donne une plus grande sécurité aux techniques opératoires.

3) Le dentiste peut augmenter ses revenus, car il peut accomplir plus de travail en moins de temps.

4) Le taillant des fraises se conserve plus longtemps en bon état, car le contact avec la dent est très léger; le dentiste diminue aussi ses dépenses, car il lui faut moins de variétés de fraises.

5) Plusieurs dentistes qui limitaient leur pratique à des techniques opératoires simples ont découvert qu'ils épargnaient du temps et qu'ils pouvaient maintenant entreprendre des restaurations plus élaborées et même préparer des piles de couronnes complètes avec beaucoup plus de facilité.

6) L'omnipratitien aussi a trouvé que les tours à super-vitesse lui permettaient d'extraire plus facilement des dents incluses ou ankylosées, en taillant avec aisance les tissus osseux et dentaires.

7) Le traumatisme exercé sur la dent est moindre à cause de la réfrigération et de la quasi-absence de pression. Il y a moins de complications post-opératoires. Ces facteurs épargnent du temps qui peut être employé à une somme plus considérable de traitements opératoires et portent le patient à mieux subir les techniques de restauration."

Autres avantages⁽²¹⁾:

Les tours à grande vitesse peuvent être utilisés par les périodontistes pour équilibrer les occlusions et pratiquer quelques résections gingivales. Le meulage de l'os alvéolaire est facile à faire puisque l'opérateur garde sans cesse le contrôle de son instrument. Le chirurgien buccal peut tailler et meuler l'os et séparer les dents sans traumatisme à l'articulation mandibulaire. L'orthodontiste qui s'occupe d'équilibration occlusale peut se servir avec succès des tours à super-vitesse.

En pédodontie, la grande vitesse a une place de choix. Les enfants qui ont commencé à faire traiter leurs dents avec des

appareils à super-vitesse acceptent mal les tours qui fonctionnent à des vitesses en dessous du niveau sonique.

Désavantages

Diverses objections ont été soulevées contre les super-vitesses; on peut les résumer comme suit⁽²²⁾:

Quelques dentistes hésitent à se servir des tours à super-vitesse pour les raisons suivantes:

1) Le bruit semble les fatiguer et ils craignent que les patients ne l'acceptent mal.

2) Le patient peut avoir l'impression que le dentiste est trop pressé.

3) Des dentistes qui se sont servis de tours à vitesse moyenne (jusqu'à 45,000 r.p.m.) ne croient pas épargner beaucoup de temps.

4) L'équipement actuel peut devenir désuet dans quelques temps.

5) La possibilité d'endommager la dent, à cause d'un phénomène "en retour".

6) La difficulté de travailler avec un réfrigérant à cause de la vapeur qui se dépose sur le miroir.

On peut répondre à ces objections par les considérations suivantes:

1) Il est vrai que l'équipement ultra-rapide actionné avec des poulies, des cordes ou une turbine fait du bruit. Les quelques patients qui se plaignent de bruit peuvent se convaincre des avantages de la super-vitesse, si on fraise leurs dents d'abord avec l'appareil à basse vitesse et ensuite avec celui à grande vitesse.

2) Les patients, qu'on craint d'entendre se plaindre que le travail a été exécuté trop rapidement, disent à peu près tous que le traitement ne sera jamais trop rapide.

3) Il est vrai qu'un disque ou qu'une grosse pierre qui tourne à 20,000 r.p.m. coupe avec une vitesse périphérique égale à celle d'une petite pierre actionnée par un appareil supersonique; mais la vibration y sera toujours. Les patients aiment ne pas sentir la vibration. Les petits instruments rendent moins dangereux le meulage des dents et contribuent à éliminer la vibration.

4) Il est vrai que les recherches se poursuivent dans le domaine des instruments qui servent à tailler les dents, surtout dans celui de l'électronique. On a dit qu'on avait mis au point un appareil qui tourne à 1,000,000 r.p.m. Il est impossible de dire maintenant si ces nouveaux instruments supplanteront ceux qui existent à l'heure actuelle. Soulignons que la somme déboursée pour l'achat d'une pièce à main ou d'un contre-angle actionnés par une courroie sera amortie plusieurs fois après quelques mois d'usage.

Le coût d'une turbine est plus élevé mais tout appareillage ultra-rapide se paie seul par l'augmentation des revenus et la satisfaction des patients. Il n'est pas nécessaire, pour exécuter du bon travail, d'avoir toutes les gammes de vitesse. Des chercheurs croient que l'ultra-vitesse ne devrait s'utiliser que pour le gros du travail de restauration et que le tour à vitesse moyenne (40,000 r.p.m.) devrait finir le travail et meuler l'intérieur de la dent. Je suis d'avis que toutes les opérations réalisées avec la vitesse moyenne pourraient se faire avec l'ultra-vitesse. Mais c'est là une question de préférence personnelle.

5) Plusieurs chercheurs ont prouvé que l'emploi d'un réfrigérant convenable prévient les dommages à la pulpe et aux autres tissus. Cette assertion peut se prouver facilement, en songeant au nombre de dents qui sont fraisées tous les jours avec ces appareils (il y en a environ 40,000, en usage) et la quantité négligeable de traumatismes exercés sur les pulpes. Cette évidence clinique considérable refute les objections de cette nature.

6) Le problème du miroir qui se couvre de buée n'a pas encore été solutionné. On peut régler en partie cette difficulté en trempant le miroir dans une solution détergente ou germicide tiède. On a mis sur le marché des inventions — telles que le Robo-Mirror ou le miroir à air — qui constituent un pas dans la bonne direction.

Le dentiste qui songe à se procurer un appareil ultra-rapide doit être ouvert aux

nouvelles idées, saisir le point de vue du patient et se faire réparer les dents à une basse vitesse, à une moyenne vitesse et à l'ultra-vitesse et ensuite décider quelle vitesse est la moins énervante.

III

Discussion de ces avantages et ces désavantages

Le but que nous nous proposons dans cette discussion n'est pas de faire une critique de "grandes vitesses"; nous ne les connaissons que par les articles qui leur ont été consacrés. Nous voulons simplement rapporter les observations que nous suggèrent ces différentes lectures et qui peuvent en découler logiquement. "On serait porté à croire, comme dit R. Bataille, dans un article intitulé "A propos de grandes vitesses", quand on lit 15,000,

30,000, 250,000 r.p.m. qu'il s'agit d'une compétition"⁽²³⁾. Certaines publications sont présentées de telle façon qu'on pourrait le croire. Y a-t-il vraiment intérêt à atteindre des vitesses aussi élevées? Ne va-t-on vers des ennuis, mécaniques fréquents, graves, voir dangereux?

Les vitesses se sont accélérées pour répondre au confort du patient et pour permettre en même temps au dentiste de faire un meilleur travail.

Le but des grandes vitesses est de diminuer la douleur. A-t-on réussi? Il semble que oui, parce qu'on semble avoir éliminé passablement les vibrations, tout en respectant convenablement le sort de la dent elle-même. Le dentiste travaillait-il mieux et plus vite avec les grandes vitesses? Des recherches dans ce domaine faites par Beebe, D. M.⁽²⁴⁾ semblent le prouver également.

NOMBRE DE CAVITÉS PRÉPARÉES

Total des cavités	1173	907
1 surface	758	654
2 surfaces	329	184
3 surfaces	86	69
total de surfaces	1674	1329
anesthésies	151	264
temps par minute	6300	6690
temps par surface	3.9 min.	5 min.

Est-ce à dire qu'il faille préconiser l'emploi unique des grandes vitesses? Disons avec Kilpatrick que la vitesse dans la préparation des cavités dépend de plusieurs facteurs⁽²⁵⁾.

1) L'habilité du dentiste. Marmasse écrit⁽²⁶⁾, en parlant du dentiste, qu'il travaille avec les grandes vitesses, qu'il use de l'instrument comme un peintre d'un pinceau. Et il ajoute "au point de vue tactile", c'est vrai, mais on ne perdra pas de vue que chaque touche de pinceau ajoute une couche de couleur, qui peut être indéfiniment masquée par la suivante. L'instrument abrasif et rotatif n'a rien de comparable. Chaque touche enlève une couche, et s'il y a touche erronée, la touche

suivante, qui se voudrait réparatrice, ne répare qu'en enlevant davantage.

L'agrément incontestable de l'absence de pression se paie d'une certaine insécurité, aussi doit-on être sûr d'avance de notre doigté.

2) Le tempérament du patient. Certains sont faciles, d'autres difficiles à travailler.

3) Le tempérament du dentiste. Pour quelques-uns, il sera impossible de travailler à l'aise avec le ultra high speed; pour d'autres, ils ne pourraient rien faire s'ils n'utilisent pas des appareils à haute vitesse.

4) L'accessibilité est aussi un facteur très important et on en imagine facilement la raison. Chez un patient par exem-

ple qui ouvre difficilement la bouche et là où le miroir ne peut-être placé.

Il appartient à chaque dentiste de choisir ou non les grandes vitesses. Se rappeler avant d'opérer que l'emploi des super-vitesses peut devenir⁽²⁷⁾ "un monstre, s'il n'est pas contrôlé".

IV

Conclusion

Une chose est maintenant reconnue: les grandes et les super-vitesses rendent le travail dentaire plus rapide et moins pénible à la fois pour le patient et pour le dentiste. Et, précisément à cause de cela, elles semblent représenter un *incontestable progrès* de la science dentaire.

Il semble de plus que, bien loin d'être une "mode passagère", comme le soupçonne Brochère, ces hautes vitesses continueront de faire sensation et d'être de plus en plus employées. Nous croyons que d'ici peu de temps, il sera admis comme normal et habituel de fraiser une dent à une vitesse de 200,000 r.p.m.

On devra se rappeler cependant qu'il importe avant tout, quand on travaille, de sauvegarder l'intégrité de la dent. Aussi devons-nous suivre à la lettre toutes les indications que requiert l'emploi de ces hautes vitesses; et le dentiste consciencieux se fera un devoir de se tenir au courant de tous les derniers développements apportés à ce sujet.

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L'infection focale d'origine dentaire

Il est peu de sujets qui aient à tel point passionné les esprits et suscité des controverses aussi vives que celui de l'infection focale et de ses conséquences. Aussi ne peut-on que féliciter la Société vaudoise de médecine et la Société vaudoise des médecins dentistes d'avoir soulevé à nouveau la discussion le 19 février dernier en chargeant de son introduction les professeurs *E. Jéquier-Doge*, directeur de la Policlinique médicale universitaire de Lausanne et *A. J. Held*, directeur de la Policlinique stomatologique de l'Institut de médecine dentaire de Genève.

Les foyers dentaires incriminés lorsqu'on parle d'infection focale sont avant tout les granulomes, mais ces derniers présentent de multiples aspects, tant du point de vue morphologique que bactériologique ou biochimique, enfin, ils diffèrent selon qu'ils se rencontrent chez un enfant ou un adulte. De nombreux autres foyers infectieux peuvent cependant jouer un rôle, atteintes pulpaire, ostéites, racines résiduelles, dents incluses, etc. Enfin, les parodontites, que l'on met souvent hors de cause, en pensant que leur drainage est assuré vers la cavité buccale, peuvent également produire des troubles à distance.

La bactériologie de ces infections dentaires est extrêmement variée: si le streptocoque viridans domine le tableau (60 à 70% des cas), on trouve également du staphylocoque, de l'entérocoque, du colibacille, etc. Le diagnostic de ces foyers infectieux est fourni par l'examen dentaire clinique et radiologique. Les différents "détecteurs" électriques semblent de bien peu d'utilité, d'autre part, le nombre même des tests dits de provocation qui ont été proposés rend bien compte de leur peu d'efficacité et de spécificité.

Les complications de ces infections dentaires sont tout d'abord régionales: tuméfactions, névralgies faciales, dont l'origine est plus ou moins évidente, atteintes oculaires (iridocyclites, etc.) ou du domaine de l'oto-rhino-laryngologie.

En médecine interne, ce n'est pas tant dans les "grandes affections" que l'infection focale peut intervenir que dans les cas moins graves, mais plus difficiles, plus complexes, dans lesquels la notion de terrain s'avère importante et qui font souvent discuter la fameuse "diathèse neuro-arthritique". On accusait autrefois les dents en présence de septicémies dont la porte d'entrée n'était pas évidente. Il semble bien qu'actuellement leur innocence puisse être certifiée dans les grandes septicémies caractérisées, mais certains états fébriles qui ne font pas leur preuve doivent néanmoins attirer l'attention sur la cavité buccale. On sait maintenant que l'infection responsable de la glomérulonéphrite est la plupart du temps amygdalienne, cependant certaines petites hématuries récidivantes disparaissent parfois après un assainissement dentaire.

Les affections rhumatismales ont longtemps été considérées comme le terrain de choix de l'infection focale. On constate cependant que le rhumatisme articulaire aigu, dans lequel le rôle du streptocoque est certain, se rencontre chez les jeunes, qui ne présentent pas encore, dans la grande majorité, de foyers dentaires chroniques, et qu'il suit le plus souvent une angine. Dans le cas de la polyarthrite chronique évolutive, la plupart des auteurs s'accordent actuellement pour dire que l'infection dentaire ne joue pas ou très peu de rôle. Il est cependant indiqué de procéder à une revision de la cavité buccale, avant tout dans le but de ne pas pratiquer à la légère une corticothérapie éventuelle. Il n'est alors pas impossible que cet assainissement conduise dans certains cas à une amélioration, le plus souvent passagère. En effet, en rhumatologie également, ce sont les petites affections, dites "rhumatismales", faites de myalgies, d'arthralgies, sans expression anatomique bien précise, que réagissent le mieux au nettoyage de la cavité buccale et qui fournissent souvent des guérisons "miraculeuses".

On ne saurait non plus incriminer actuellement l'origine dentaire dans les endocardites, pourtant, il est de bonne pratique de ne procéder à une extraction dentaire que sous couvert de pénicilline si la malade a souffert auparavant d'un rhumatisme articulaire aigu. En cardiologie, l'assainissement dentaire paraît profitable avant tout aux cas légers, aux tachycardies et aux arythmies difficiles à saisir, que l'on qualifie volontiers de "névroses cardiaques". Enfin, il semble que l'on rencontre très souvent des infections dentaires chez des malades ayant présenté un infarctus du myocarde. Il semble que celles-ci puissent jouer dans ce cas un rôle déclenchant. Le professeur *Jéquier-Doge* trouve là une indication suffisante pour soumettre à des contrôles dentaires périodiques les malades qui paraissent exposés à des troubles coronariens.

Les douleurs à type névralgique—névralgies cervico-brachiales, etc.—et certaines dystonies neuro-végétatives répondent parfois favorablement à un assainissement dentaire, enfin, souvent, des eczéma chroniques, récidivants, intraitables, peuvent répondre très favorablement à un nettoyage dentaire.

Comme on l'a vu, les faits cliniques dans lesquels on peut invoquer l'infection focale sont fort disparates, et l'on est tenté de les réunir sous des dénominations assez lâches, telles que celle de "diathèse

neuro-arthritique". En effet, il est essentiel de considérer que, dans l'infection focale, l'infection n'est pas tout. La grande majorité des porteurs de granulomes dentaires ne présentent aucun trouble général. La réaction particulière de l'organisme doit donc être envisagée, et la notion de terrain évoquée pour l'expliquer, d'où la propension aux grandes théories générales (allergie, troubles neurogènes, neuro-hormonaux, etc.) et la tentation de la méfiance exagérée pour le sceptique qui préfère les faits aux théories. Cependant, en fin de compte, lorsqu'un malade chronique pose un problème de diagnostic ou de traitement, le plus méfiant n'hésitera pas à recourir à un examen dentaire, peut-être pour demander au dentiste une solution qu'il se découvre incapable d'apporter. C'est alors qu'un nouveau problème surgira, une fois le résultat de l'examen acquis: quelle conduite tenir, nettoyer et drainer les foyers ou pratiquer l'avulsion dentaire? C'est là une affaire de tempérament plus que de science et l'on verra souvent le médecin plus porté aux solutions radicales que le dentiste que sa profession incite à conserver les dents autant que possible. Finalement, comme le soulignèrent tant le professeur *Jéquier-Doge* que le professeur *Held*, il importe que la décision soit prise d'un commun accord entre le médecin et le dentiste dans un esprit d'entière collaboration.

Médecine et Hygiène, 20-3-59

Nouvelles de l'Association

Saskatchewan

Le bill no 90 fut présenté à la Législature de Saskatchewan, au début d'avril 1959 par le Collège des Chirugiens-Dentistes de Saskatchewan. Ce projet de loi contenait des amendements à la loi dentaire de Saskatchewan. L'association nationale des "denturistes publics" s'opposait à ce bill. Les amendements qu'a approuvés le Parlement

sont contradictoires, mais ils permettent à n'importe qui de rendre des services de prothèse à tous ceux qui ont un certificat de santé buccale signé par un dentiste ou un médecin.

Une énumération complète de ces amendements a paru dans la livraison de juin du *Journal* dans la rubrique "Nouvelles de l'Association."

Colombie britannique

Le 25 février 1958, le Ministre de la Santé et du Bien-Etre de la Colombie britannique a présenté à Législature un bill intitulé: "Loi au sujet des Techniciens dentaires" (Bill no 45). Ce projet de loi pourvoyait à l'établissement du Bureau d'Examineurs, composé de cinq membres pour les techniciens dentaires de laboratoires; ce Bureau était autorisé à faire son travail indépendamment du Bureau d'Examen dentaire de la Colombie britannique; ses fonctions consistaient: (a) à réglementer l'enregistrement et l'octroi des licences à tous les techniciens dentaires de laboratoire; (b) à fixer les normes de la formation, de l'expérience et des qualifications requises pour l'enregistrement; (c) à faire subir des épreuves aux personnes demandant d'être enregistrées; (d) tenir un registre des techniciens dentaires licenciés; (e) annuler ou suspendre la licence et l'enregistrement de tout technicien dentaire trouvé coupable par le bureau de mauvaise conduite ou d'avoir fait preuve d'incompétence telle que l'intérêt du public exige que son enregistrement ou sa licence soit annulée ou suspendue; (f) organiser un curriculum convenable de formation ou d'apprentissage pour les techniciens dentaires et (g) fixer les fonctions du technicien dentaire telles que définies dans la clause 6 du bill no 45 qui déclarait qu'un "technicien dentaire dûment enregistré et licencié d'après ce bill peut . . . faire, produire, reproduire, confectionner, fournir, livrer, modifier ou réparer toute pièce de prothèse et, dans ce but, transiger directement avec la personne qui doit porter la prothèse". Les dentistes, les médecins, les employés des dentistes et les apprentis ou les employés des techniciens dentaires n'étaient pas touchés par cette loi. Le Collège des Chirugiens-Dentistes de la Colombie britannique, l'Association dentaire canadienne et l'Association des Laboratoires dentaires de la Colombie britannique s'opposèrent vigoureusement à l'approbation de cette loi no 45. Les motifs que la profession dentaire et les propriétaires réguliers de laboratoires dentaires alléguèrent pour s'opposer à la loi furent les suivants: (a) tout le domaine de la prothèse dentaire — fixe, amovible, partielle et complète — était mis entre les mains de personnes incompetentes; (b) le Bureau des Examineurs pour les techniciens de laboratoires dentaires pouvait être constitué de personnes tout à fait ignorantes des choses dentaires et des traditions du technicien dentaire de laboratoire et (c)

tout technicien, nonobstant le genre et la durée de son apprentissage ou de son expérience, pouvait être qualifié pour avoir le statut de technicien enregistré. L'opposition de la profession et des laboratoires ordinaires fut telle que le bill fut renvoyé à un comité spécial de la Législature.

L'assemblée Législative approuva le bill, le 19 mars 1958, après lui avoir fait subir trois amendements majeurs: (a) les termes de la clause 6, qui auraient permis aux techniciens enregistrés de laboratoires dentaires de transiger directement avec le public furent enlevés; (b) le Bureau des Examineurs pour les techniciens dentaires de laboratoires était autorisé à établir des règlements, "à condition que ceux-ci défendent la réclame extérieure et fixent les limites et le contrôle de la publicité faite au laboratoire lui-même" et (c) les amendes pour des offenses répétées à la loi furent augmentées.

Le Bureau des Examineurs pour les techniciens dentaires de laboratoires se réunit pour la première fois à la fin de novembre 1958. Le président du Bureau est le docteur Gordon Schrum, doyen du département de physique de l'Université de Colombie britannique. Les autres membres sont: M. R. R. Keith, avocat de Vancouver; le docteur Harold M. Cline, ancien président du Collège des Chirugiens-Dentistes de la Colombie britannique; M. Wilfrid Elder, président de l'Association des laboratoires dentaires de la Colombie britannique et M. Gerry Smith, président de la Société des Techniciens dentaires de la Colombie britannique (le groupe des denturistes de la Colombie britannique).

Le premier travail du Bureau des Examineurs consista à rédiger les règlements qui devront être plus tard approuvés par le Cabinet; à fixer les standards d'enseignement, d'expérience et de qualifications techniques pour les techniciens dentaires enregistrés de la Colombie britannique.

Manitoba

Au début de cette année, la Législature du Manitoba a reçu avis qu'un bill du genre de ceux des "denturistes publics" serait présenté devant elle. La Législature a terminé son travail avant que le bill ne lui parvienne. On peut s'attendre à des tentatives semblables à celles des autres provinces, à la prochaine session du nouveau gouvernement.

Les annonces des "hommes en blanc" bannies à la télévision des Etats-Unis

L'Association nationale des Emissions radiophoniques des Etats-Unis a amendé son code de télévision de façon à défendre les annonces qu'on connaît sous le nom "d'hommes en blanc". A ce sujet, le Dr. Hillenbrand, secrétaire de l'Association dentaire américaine, écrit: "Depuis plusieurs années, la profession dentaire s'inquiétait des déclarations fautives et trompeuses qui étaient faites à la télévision par de supposés dentistes. L'Association dentaire américaine croit que ce nouvel amendement . . . qui empêche les acteurs de prétendre qu'ils sont des dentistes pour faire des annonces commerciales, favorise, l'intérêt du public."

A partir du 1er janvier, les annonces actées qui contiennent des déclarations supposées faites par des médecins, des dentistes ou des garde-malades doivent être faites par des membres en règle de ces professions. Jusqu'à maintenant, la loi permettait à des acteurs de jouer le rôle de membres de ces professions, à condition que le mot "dramatisation" apparaisse au moins dix secondes sur l'écran.

Pas assez sucré?

L'industrie du sucre au Canada croit apparemment que la dent sucrée du pays ne l'est pas assez. On apprend que cette industrie se propose un vaste programme d'annonce pour rendre le Canadien plus friand de sucre.

La consommation annuelle de sucre se chiffre à 13.6 livres, par tête. Aux Etats-Unis et au Royaume-Uni, la consommation est respectivement de 17.4 et de 28 livres.

Les dentistes sont invités à renouveler leurs efforts pour rendre les Canadiens plus conscients de l'effet du sucre sur les dents.

Nomination de l'officier dentaire de l'Organisation mondiale de la Santé

Le docteur Bruce Rice, qui était assistant-directeur de la Section d'Hygiène dentaire du Ministère de la Santé de la Nouvelle-Zélande, vient d'être nommé officier dentaire en chef de l'Organisation mondiale de la Santé. Il succède au docteur Carl L. Sibelius de Nashville, Tenn., qui occupait cette fonction à Genève, depuis deux ans.

Bottin de 1958

La dernière livraison contient la liste complète et révisée de tous les dentistes qui sont membres de l'Association dentaire canadienne. Ce bottin était jusqu'ici publié tous les deux ans, mais, à partir de cette année, il le sera tous les ans. On peut s'en procurer une copie, en écrivant au secrétariat. Le prix est d'un dollar.

Réclame douteuse des dentifrices

L'Association dentaire américaine a demandé au Congrès de Washington de passer une loi pour contrôler la réclame douteuse qui est actuellement faite pour les dentifrices. Contrairement à ce que croient généralement plusieurs dentistes canadiens, la U.S. Federal Trade Commission avoue n'avoir pas les pouvoirs nécessaires pour faire cesser les annonces pour les dentifrices, dont les allégués ne sont pas prouvés par les faits. L'Association dentaire américaine demande d'élargir les lois pour rendre plus facile et plus rigoureux le contrôle des préentions thérapeutiques.

Aux séances du Congrès, à Washington, le docteur Harry Lyons, président-sortant-de-charge de l'A.D.A., a fait la déclaration suivante:

"Depuis quelques années, nous avons été témoins de la mise sur le marché, avec fanfare, de dentifrices soi-disants "thérapeutiques" ayant le grand mérite d'être des digestifs à base de pepsine, des antiseptiques, des détergents sulfatés, des agents dissolvants, de l'urée, des composés ammoniacaux, de la chlorophylle, des antienzymes et des composés de fluor. L'un après l'autre, ces dentifrices ont été portés aux vues à force de réclame que ne substantiait aucune recherche sérieuse. Aucun de ces dentifrices a survécu au temps et à l'usage . . ."

Il est vrai que le public a dépensé des millions de dollars pour l'achat de ces produits, mais là n'est pas le point le plus important dans cette question de réclame à outrance, basée sur des futilités pseudo-scientifiques. Les conséquences les plus graves de ces annonces sont d'ordre sanitaire, comme celle de fournir à la population une fausse sécurité pour la carie dentaire, pour les maladies périodentaires, pour la mauvaise haleine due aux désordres de la cavité nasale, des sinus, des poumons et du tube digestif et pour les maladies constitutionnelles, qui ont des manifestations dans la muqueuse buccale.

Quelques-unes de ces annonces vont même jusqu'à prétendre qu'on peut manger impunément du sucre toute la journée, à condition qu'on ait utilisé une fois, le matin, telle pâte à dents, avant le déjeuner. Cette suggestion épouvantable annule tout le travail accompli par les professions sanitaires pour éduquer le public sur les mesures hygiéniques et alimentaires à prendre pour protéger ses dents contre les ravages de la carie. Il n'y a pas de raccourci en hygiène dentaire et le fait de tromper le public dans ce domaine constitue une violation délibérée de son bien-être sanitaire.

Le docteur Sholow Pearlman de l'A.D.A. Council on Therapeutics, dans un mémoire écrit, déclare que la plupart des réclames

faites aux soi-disants dentifrices "thérapeutiques", exagèrent, grossissent et dénaturent les résultats quelconques obtenus au cours de prétendues recherches, en trompant grossièrement et en décevant gravement le consommateur. Il dit plus loin "qu'on ne peut prouver qu'aucun dentifrice actuellement sur le marché joue un rôle un tant soit peu important dans la prévention des maladies buccales". "Ce qui compte," déclare le docteur Pearlman, "c'est le brossage des dents; les dentifrices ne font qu'aider la brosse à dents." Pour demander l'intervention du gouvernement, l'A.D.A. invoque l'argument suivant: quand il y va de la santé du public, le gouvernement est justifié d'imposer à l'industrie des normes rigides de responsabilité.

Réunion générale de 1959—Questions importantes

Augmentation des cotisations—Le Conseil des Gouverneurs, après avoir pris connaissance d'une étude sérieuse entreprise au cours de l'année sur les besoins de l'Association, a voté unanimement d'augmenter la cotisation annuelle des dentistes. Le Conseil a décidé d'élargir les cadres du Secrétariat pour qu'il puisse recueillir des renseignements supplémentaires dans plusieurs domaines, de façon à ce que la profession soit capable de répondre aux questions qui lui sont demandées. Déjà la plupart des provinces se sont déclarées prêtes à augmenter leur cotisation.

Journal—Le Comité de Publication, malgré l'augmentation des frais d'impression, a réussi à boucler son budget pour 1958 et, en conséquence, n'a pas demandé à l'Association un octroi plus élevé pour 1960. Le comité, le 1er janvier 1959, a signé un nouveau contrat avec la Maclean-Hunter Publishing Co. Ltd.

Fluoruration—L'Association a réaffirmé la résolution adoptée à ce sujet en 1958.

Activités des denturistes—Le Conseil, comme mesure urgente et immédiate, a accepté de recommander d'étudier la possibilité d'organiser des unités mobiles pour desservir les régions rurales qui ont besoin de dentistes, d'utiliser les dispensaires des hôpitaux et de songer à la question des honoraires pour la prothèse.

L'Exécutif, comme politique de l'avenir, a décidé de nommer une commission qui étudiera les moyens les plus pratiques pour prodiguer à un plus grand nombre de personnes des services dentaires.

Président—Le docteur J. W. McIntosh, de Toronto, a été élu président de l'Association. Le docteur W. J. Langmaid, qui était président-élu, a été forcé pour cause de maladie de démissionner; sa démission a été acceptée avec regret. Le docteur J. P. Whyte, de Swift Current, Saskatchewan, a été nommé président-élu.

Budget—Le budget de 1960 a été approuvé avec un déficit de \$9,350.00.

Systèmes de services—On a appris qu'un nombre plus considérable de systèmes de services étaient en opération, en soulignant que le succès de ces plans mis en oeuvre par la profession est intimement lié à la coopération des dentistes. Le Conseil des Gouverneurs a demandé d'effectuer une revue des principes à la base des plans de post-paiements et de s'occuper sérieusement de toutes les phases de plans destinés à prodiguer des services dentaires à des groupes donnés de personnes, tels que les syndicats.

Services hospitaliers—Le statut légal du dentiste dans les hôpitaux s'établit peu à peu. Le Conseil a adopté une résolution énumérant les maladies dentaires qui nécessitent d'être traitées dans les hôpitaux.

Recherches—Le Conseil a appris que la quantité de recherches entreprises au Canada a considérablement augmenté. Le problème réside dans la pénurie de personnes qualifiées pour ce genre de travail. Le Comité des Recherches n'a pu satisfaire toutes les demandes pour des bourses durant l'année et pourrait utiliser avec grand avantage une augmentation de ses subsides pour aider à la formation de personnel pour la recherche.

Enseignement—On a appris que les disponibilités pour l'enseignement avaient augmenté, mais même ces progrès, comme l'indiquent les statistiques, ne suffiront pas à améliorer, dans les prochaines années, la proportion des dentistes par rapport à la population. Le Conseil a adopté des déclarations sur l'enseignement de l'anesthésie, les exigences d'admission aux études, la formation de techniciens dentaires et une série de cours révisés à l'intention des étudiantes garde-malades.

Etiquette—Une nouvelle édition du code d'étiquette professionnelle a été approuvée; ce code sera imprimé et distribué à tous les membres.

Hygiène dentaire publique—On rapporte progrès dans la préparation d'un index d'hygiène dentaire publique pour le Canada. Cette initiative provient d'une demande de la Conférence canadienne des Enfants, qui se tiendra en octobre 1960; la Conférence collabore à ce travail.

On trouvera des détails supplémentaires au sujet de cette réunion dans les Délibérations qui seront expédiées à tous les membres au cours de l'automne.

Le Service d'Hygiène publique des Etats-Unis publie un relevé sur les régions dont l'eau contient du fluor à l'état naturel.

Le Service d'Hygiène publique des Etats-Unis fait part de la publication d'un rapport, montrant les régions dont les aqueducs desservent de l'eau qui contient du fluor à l'état naturel. Ce rapport se base sur des statistiques amassées à la demande du Service d'Hygiène par les directeurs des sections dentaires de toutes les unités sanitaires de chaque état.

L'eau des aqueducs de 1,903 villes et municipalités, renfermant une population de 7,000,000, contient suffisamment de fluor à l'état naturel pour prévenir deux ou trois caries dentaires. Des villes de 43 états utilisent une eau qui renferme assez de fluor pour prévenir la carie. La population de ces villes oscille entre 50 et 500,000 habitants. Au Texas, 2,700,000 personnes boivent de l'eau qui contient du fluor. Au Nouveau-Mexique, 465,000 personnes, ou 68 pour cent de toute la population, habitent dans des régions où l'eau contient du fluor à l'état naturel.

Plus de 450,000 personnes de 136 villes de l'Illinois et 406,000 personnes de 184 agglomérations de l'Iowa consomment une eau où on trouve du fluor à l'état naturel. Au moins 100,000 individus dans chacun des états de Californie, Colorado, Floride, Idaho, Indiana, Kansas, Louisiane, Michigan, Ohio et Wisconsin, vivent dans des municipalités où les sources d'approvisionnement en eau contiennent du fluor à l'état naturel.

Trente-cinq pour cent des 7,000,000 de personnes consommant de l'eau qui contient du fluor à l'état naturel habitent des villes et des municipalités qui ont des populations de plus de 50,000 habitants.

Trente-huit pour cent vivent dans des villes dont la population est de 5,000 à 50,000 habitants et 27 pour cent dans des petites villes de moins de 1,000. "L'eau qui contient du fluor à l'état naturel a le même effet que l'eau à laquelle on ajoute du fluor artificiellement", dit le docteur John W. Knutson, chef de la Section dentaire du service d'Hygiène publique.

"Les 1,800 municipalités qui ajoutent du fluor à leur eau de consommation essaient d'en fixer le taux à celui trouvé dans l'eau de toutes les parties du pays qui contient du fluor à l'état naturel, c'est-à-dire de 0.7 à 1.2 parties de fluor pour un million de parties d'eau."

"Les trente-cinq millions de personnes qui résident dans ces 1,800 villes et les sept millions qui utilisent de l'eau qui contient du fluor à l'état naturel constituent le tiers des habitants du pays qui se servent de systèmes d'aqueducs; donc une personne sur trois boit de l'eau qui contient du fluor naturellement ou artificiellement."

Le Service d'Hygiène publique des Etats-Unis et les ministères d'hygiène publique des états, après avoir fait un relevé sur la teneur en fluor naturel des eaux de consommation, rapportent que 7 millions de personnes dans plus de 1,900 villes consomment cette eau. Ces personnes qui boivent de cette eau ont trois fois moins de caries que celles qui consomment une eau qui n'est pas fluorée. De plus, 1,800 villes ayant une population totale

de 35 millions d'habitants ajoutent à leur eau du fluor pour protéger les dents de leurs enfants.

L'Angleterre ne s'occupe pas des enfants, déclare le président de l'Association dentaire britannique

Le docteur G. Lotan Venning, le nouveau président de l'Association dentaire britannique pour le terme 1959-60, a accusé le gouvernement de manquer à ses obligations envers les enfants par le truchement du service national de santé. Le docteur Venning a lancé ces accusations au cours d'un message donné à la réunion annuelle générale de l'Association. Le gouvernement, a déclaré le docteur Venning, n'a porté aucune attention aux recommandations de l'A.D.B., soulignant que tout service national de santé devrait se centrer sur les dents des enfants. Un grand nombre d'enfants ne sont pas traités, quoique 98 pour cent des écoliers souffrent de maladies dentaires. Le président de l'organisme anglais a prétendu que c'est une fausseté que de dire à la population que tous peuvent se faire traiter.

Cette erreur est responsable de l'état pitoyable actuel des dents des enfants. Le Dr Venning a déclaré: "La profession dentaire a fait son possible pour faire face aux nouvelles conditions d'exercice mais tout progrès est handicapé par un sentiment de frustration. Il se peut que dans quelques années, ces difficultés disparaissent, c'est-à-dire que nous aurons appris comment adapter les conséquences d'un service étatisé aux principes qui ont toujours réglé le comportement du praticien privé prenant l'entière responsabilité du traitement de son patient."

Des lois favorisant des "denturistes" rejetées dans deux autres Etats.

La Législature de deux autres Etats des Etats-Unis — la Californie et le Michigan — vient de rejeter des bills qui auraient autorisé des personnalités qui ne sont pas dentistes à prodiguer des services de prothèse directement pour le public. Il y a donc, en 1959, maintenant six Etats qui ont refusé de sanctionner des projets de loi en faveur des "denturistes". Ces Etats sont, en outre des deux autres — Georgie, Nevada, Oklahoma et Washington. La décision de la Législature de la Californie touchait le deuxième de deux projets, qui voulait régulariser l'exercice de la "dentisterie mécanique". Le bill du Michigan demandait d'établir un bureau d'état de "denturologie", ayant les pouvoirs de réglementer et d'enregistrer les "denturologistes" et les laboratoires "denturologiques". En même temps, dans l'Illinois, un bill "denturologiste" était défait par un comité de la chambre basse, tandis qu'un autre bill de la même espèce est pendant devant le Sénat.

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Out of the Past and into the Future

ROY G. ELLIS, D.D.S., M.Sc.D.,* Toronto, Ontario

Editor's Note:

The Journal of the Canadian Dental Association is privileged to publish the following words written by Dean Roy G. Ellis. Dean Ellis has modestly refrained from mentioning his personal tireless efforts, often in the face of extreme adversity, to bring this colossal Dental achievement to fruition. The past and the future of dentistry will remain indebted to him and to his committee members who cheerfully maintained their full teaching, administrative and research schedules in spite of the tremendous additional responsibilities associated with planning the building.

Fifty years ago the Royal College of Dental Surgeons of the Province of Ontario had a moving day. The dental school took over new quarters at 230 College Street. During the half century since, the school became a full Faculty of the University of Toronto (1925) and has bulged at the seams with overcrowded classes following two world wars.

Fifteen years ago a six-man Committee of the Dental Faculty staff made a detailed report respecting the future needs of the Faculty. This study was financed by the Royal College of Dental Surgeons,

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New Faculty of Dentistry, University of Toronto.

Panda Photography.

and included funds for the visitation of a dozen or more of the most up-to-date dental schools on this continent. Sketch plans were drawn up by the Committee for a four storey building with a total floor space of 84,000 square feet. This was considered adequate then for classes of 80 students. The projected site was the city block on University Avenue, immediately south of the new Hospital for Sick Children, which today is occupied in part by a commercial skyscraper.

Following the release of the 1944 report, a series of events took place which have had an important bearing upon the activities of the past three years.

Firstly, the development of an active, integrated program of graduate and post-graduate education was stimulated by generous financial assistance from the W. K. Kellogg Foundation during the period 1947-49. However, the solution to the problems created by space limitations, was not to be found in the old building.

Secondly, in 1951, the Ontario Government concluded a survey of the health needs of the Province. In respect to dentistry the recommendation was that 120 new graduates were required annually. Only 75 could be accommodated in the existing facilities.

Thirdly, the establishment of the Division of Dental Research in 1951, and the magnificent response of the members of the dental profession a year later to the appeal for financial support of research, triggered further demands for greatly increased space for dental education and research.

Fourthly, and again with assistance from the Kellogg Foundation in 1951, the training of dental hygienists was inaugurated, and again space was the limiting factor.

Therefore, with all these compelling reasons pointing to the need for new and larger quarters for research, and the education of dental personnel, it is not sur-

prising that in March 1954, the Ontario Government announced in its annual budget the inclusion of the sum of one million dollars as a "special capital grant to the University of Toronto for the expansion of its College of Dentistry". This set in motion the second study during the decade 1944-54 of the feasibility of modernizing and expanding the building at 230 College Street. One year later it was demonstrated that the expenditure of two million dollars in this way would make possible the addition of only 9 dental students, and 6 dental hygienists to each class. More disturbing still, this plan would eliminate any possibility of introducing new concepts into undergraduate dental education or provide adequately for the other needs.

Thus, early in 1955, five* of the original 1944 Committee of six men, found themselves participating as members of an enlarged building Committee. However, the green 'go ahead' light had already shown amber as further visits to dental schools and preparations of plans for a new building were authorized.

It soon became evident that the 1944 concept was inadequate and required radical revision for the reasons outlined above. The 1944 plans for 84,000 square feet of space on four floors mushroomed to six floors covering an area of approximately 184,000 square feet. Similarly, the cost of the 1944 site had increased tenfold, representing over one million dollars, and it was reluctantly abandoned in favour of more building on a less costly site just to the east.

From early in 1956 to the present date the Building Committee has held approximately 100 meetings. They prepared and studied dozens of detailed memoranda on such subjects as "traffic flow in the building"; wall, floor and ceiling finishes; lighting requirements; lecture room requirements; parking space; locker rooms; common rooms; heavy equipment; student instrument kits; sterilizing equipment;

closed circuit television equipment, and many others. Throughout the hot summer months of 1956 the Committee met on several occasions with the architect and University authorities to press claims for the inclusion of air-conditioning in the building, but without avail.

However, in spite of some disappointment along the way, the new building is modern, contemporary in design, and colorful. By way of contrast, the overcrowded conditions of the former building have given way to roominess; poorly lighted laboratories, once relieved only by students bringing desk lamps, are now cheerfully bright under fluorescent lighting; dusty wooden floors in the main clinic are now attractive linoleum tile; finger marked painted walls in corridors, student and patient areas have been transformed with colorful mottled ceramic tiles, and frustrating acoustic problems have been eliminated with the use of acoustic tile on the ceilings throughout the new building.

Features of the building, which will be formally opened on November 25th, include: closed circuit television; one clinic room equipped with 124 dental units (all with airtors installed); ramps for patients as they proceed to any one of the seven clinical areas located on the ground floor and the one above; three lecture rooms, each complete with instrument panels on the podium for the control of two types of room lights, motorized screens, and projection equipment; a quiet, pleasant room for 120 readers as the focal point in a well-planned library, and many others.

Research quarters occupy most of the fourth and all of the fifth floors, with excellent laboratories for almost any aspect of research in the biological fields related to dentistry. This includes separate and carefully controlled space for experimental isotope work.

In the clinical areas special aspects of cleanliness control are featured. Two huge combination sterilizers have been installed, each capable of being operated by steam or gas (ethylene oxide). The latter

* (P. G. Anderson, R. J. Godfrey, J. H. Johnson, C. H. M. Williams, and R. G. Ellis)

is used not for heating purposes but to sterilize perishable equipment with a safe gas, for example, handpieces, endodontic instruments, rubber gloves, and so on.

Closed circuit television equipment has been installed after experimenting with its use and application during the past three years. In some areas a clinical demonstration can be seen equally well by a whole class of 124 students, instead of repeating the operation many times to groups of 8 or 10. A dozen pick-up points for programs have been provided in the building, with 21" screen plug-in points scattered throughout. The main programs will likely originate in the television studio on the third floor, and be received in the 350 seat lecture room where more than one class can be accommodated at a time. Television as a teaching medium will not replace the present conventional methods, but will serve as a useful adjunct.

The new and very modern features will be tempered by a stained glass window, honouring J. Branston Willmott, one of the founders of the school in 1875, which was a feature of the main stairway at 230 College Street. This window, residing now in a suitable place in the new building, along with several bronze plaques, a number of oil portraits and a pair of beautifully carved crests of the University of Toronto and the Royal College of Dental Surgeons will preserve our traditions and ties with the past.

The dental profession should be aware of the fact that the physical plant alone will not make for success in dental education. Most important of all is a well-prepared, dedicated staff. We are confident that we have a staff whose stature is just as impressive as the building.

124 Edward St.

The Tragedy of the Traumatized Anterior Tooth

GEORGE C. HARE, D.D.S., Toronto, Ontario

I suppose that there is no time in the practice of dentistry when one feels so helpless and heartsick as when a youngster is brought to the office with a badly traumatized anterior tooth. How often we have heard it said that if only she had broken an arm or leg it would not have been so bad. An arm or leg will repair but when a tooth is fractured it will never be the same again. For all too many years the problem has been solved by the removal of the damaged tooth, but when you look back upon situations which you

have met in this manner was the problem really solved? If we are honest with ourselves we know that rather than solving the problem we simply made more difficult problems. Let us consider a child of ten years of age who fractures an anterior tooth. If the tooth is removed it is true that the immediate problem is solved but what of the future? Fixed bridgework cannot be inserted at this time without endangering the pulps of adjacent teeth. The space must be maintained and therefore a partial denture is placed in the

mouth of the child. Any who are parents of children know how difficult it is to get a child of this age to cleanse the teeth carefully and regularly. The prospect is that wherever the denture comes in contact with the lingual surfaces of the teeth caries can be anticipated. Great as may be this danger I feel that it is nothing as compared to that of the psychological impact which the presence of a partial denture in the mouth of a child can have on the developing personality of the teenage boy or girl. The more one thinks upon this phase of our responsibility to the child the more we become convinced that extraction of such teeth is not the answer to the problem. If this were my child I would say that everything possible must be done to preserve the injured tooth and to return it not only to a healthy state but to a condition so esthetically pleasing that the child will smile and laugh as if nothing had ever happened to the tooth.

First of all let us clear away one of the cobwebs which we have inherited from the early days of the century. The tooth which has had the pulp removed, the root-canal treated by accepted endodontic procedures and finally obturated by a material which is impervious to moisture is not a dead tooth. The pulp of the tooth has as its primary function the formation of the tooth and when that development has been completed it gradually gives way to an invasion of secondary dentine as the decades of life pass away. It is the peridental membrane which determines the life of the tooth. As long as the peridental membrane can be maintained in a healthy condition the tooth may be retained without fear of all the dreadful possibilities which are found in the writings of thirty or forty years ago. You will notice that I stated that the root-canal must be treated by accepted endodontic procedures and it is as a guide to some of these principles that I have selected certain types of dental accidents which greet us in our offices, and which I wish to discuss with you this morning.

Sooner or later the door of your office will open to admit a youngster whose tooth has been evulsed from the mouth

only a short time before his arrival. We know that reimplanted teeth have only a life expectancy of from four to seven years due to the resorption of the roots but think of what retention of such teeth means to a child just entering high school age. It means that by the time the tooth is finally lost he will have reached an age when fixed bridgework may be inserted without danger to the pulps of the adjacent teeth. Therefore it is well for us to know the various steps which we should follow to reimplant the tooth. The first stage is to avoid handling the tooth as much as possible. Wrap the tooth in a layer of gauze saturated with normal saline solution and imbed it in a block of plaster. Be careful to leave both the crown and about four millimetres of the apical portion of the root visible. After the plaster has hardened open into the pulp chamber with a round diamond point. Resect approximately two millimetres of the apex of the root and cleanse the root-canal thoroughly. After enlarging the root-canal to the largest reamer or file which is feasible, irrigate by use of alternate solutions of four percent sodium hypochlorite and three percent hydrogen peroxide. Dry the root-canal, coat a large silver point with a root-canal sealer cement and fit it into the root-canal. Place a flat dental chisel over the coronal end of the silver point and with a small mallet drive the point to place. Do not cut the silver point out of the pulp chamber but allow it to remain to give added support to the crown. The apical end of the silver point should be severed at the cut apex of the root and polished very smooth. The advantage of the silver point over the use of gutta percha is that as the root resorbs the silver point will remain as a stabilizing implant within the jaw. As a result of this added support the crown may remain considerably longer in position than would be otherwise possible. When the tooth has been satisfactorily prepared for return to the mouth it is removed from the plaster block and laid in a bath of normal saline solution while the traumatized tissues are anesthetized. Remove all por-

tions of blood clot from the socket and examine the entire region for any imbedded debris. Replace the tooth in the socket. Due to the removal of the two millimetres from the apex there will be little back pressure and the tooth should seat easily. It is important to be sure that the tooth is actually in its original position. Suture the torn tissues firmly to place using a triple zero silk suture. Immediately take an alginate or hydrocolloid impression and make a removable bite plane type of splint with retaining wires over the incisal edge of the tooth. Until the appliance has been processed a temporary wiring of the tooth to the adjacent teeth may be considered if the tooth tends to drift out of proper alignment. The value of the removable appliance is that the tooth may be easily examined for stability at intervals and discarded as soon as it is no longer required. It is not necessary to splint such teeth over a protracted length of time as most reimplanted teeth are ready to resume normal function in two to four weeks.

Hockey is a wonderful game but it provides us with some of our most tragic dental accidents. A hard driven puck smashing into the face invariably results in the fracture of one or more teeth. What are we to do when the victim of such an accident arrives at the office without prior notice? All too often the urge is to place a pledget of cotton, moistened in a sedative drug, over the exposed pulp and cover it with cement. How long do you think that that dressing will stay in place? My guess is that it will be lost before the end of the first meal. We have had drilled into us that to perform any endodontic treatment under anything less than strict asepsis is to court failure. The surgeon is similarly trained but if he comes upon a roadside accident in which someone is seriously injured he does not refuse to help simply because he does not wear gloves, a face mask, and have all the accoutrements that are part of an operating room in a hospital. He renders first aid. That is what we must do when one of these cases appears unexpectedly — render

er first aid. The very first move should be to place an anesthetic in the injured region. Now the child is comfortable and a radiograph can be taken without distress. While the radiograph is being processed the mouth should be thoroughly cleansed of all debris. If you have a clinical photographic set-up in your office now is the time to photograph the area as part of your case history. The radiograph should be carefully examined for possible longitudinal fracture of the roof or of transverse fracture in the cervical third of the root. If either should be the case the prognosis for retention of the tooth is very poor. Fortunately this rarely happens and so the majority of teeth with crowns fractured to such an extent as to expose the pulp are endodontically operable. Block off the region with cotton rolls and by means of a barbed broach, held securely in a broach holder, remove the pulp. Wash out the root-canal with water and then dry it. Moisten a paper point with eugenol and place it in the canal. Cover the paper point with a pledget of cotton and complete the closure of the canal with a double seal of gutta percha temporary stopping under zinc oxyphosphate cement. If the severity of the accident caused general laceration the child may now be sent directly to the physician for any necessary medical care. The point of such a course of treatment is that the child has been made comfortable. He can eat and drink without pain until all lacerations have healed and until you can arrange a series of appointments for completion of the endodontic treatment under aseptic conditions.

Icy streets provide another fruitful source of accidents involving the anterior teeth. To further add to the woes of both patient and dentist these teeth are frequently incompletely formed. If the radiograph shows that the root is not fully calcified we should do everything possible to retain the vitality of the pulp until that phase of development is complete. The operation of pulpotomy is highly successful if the patient is seen within a few hours of the accident. It is most im-

portant to grasp every opportunity when speaking to parents, teachers or physicians that we should emphasize the necessity of taking any child, who has suffered a blow in the face, to the dentist as soon as possible after the accident. The value of such educational effort was brought home to me only last month when a teacher left her class in the care of another teacher while she brought a child to the office following an accident in the school yard. As a result of her action the pulp vitality was preserved in that tooth. To get back to treatment procedure, the first move is to place an anesthetic so that all pain is removed. If at all possible the rubber dam should be placed in position and a sterile field secured. The roof of the pulp chamber should be removed with either a bibevel drill or a round bur. Under no circumstances should the air turbine be used unless with an adequate coolant. The pulp should be severed at the entrance to the root canal. This operation may be performed with a sharp cycloid but I prefer to use a new large round bur which has been flamed with alcohol several times. A soft mix of chemically pure calcium hydroxide is now made by adding sterile water, or some of the anesthetic left in the carpule, to the powder. This stiff mix is gently carried to the cut surface until a couple of millimetres depth has been built. Cover the mix with a second thick mix of zinc oxide and eugenol. Wipe all margins clean and finish with a layer of oxyphosphate of zinc cement. Make whatever preparation is necessary at this visit and place the final treatment-restoration at the next visit. The fact should be borne in mind that following any pulpotomy the restoration should be placed. Many an otherwise successful pulpotomy has been doomed to failure because of the marginal failure of a cement filling.

It sometimes happens that the child with a widely exposed pulp is not placed under the care of the dentist until several days after the accident. In such cases the pulp will have commenced to break down and the prognosis for a successful pulpo-

tomy is poor. The removal of a large pulp poses a real problem unless we recall some of our fishing lore. I imagine that almost everyone in this room can remember an occasion when on attempting to remove such a pulp he had blood over everything but still the body of the pulp refused to part at the apex. By winding several barbed broaches together to form a "ganghook," as we used to do with fishhooks when the suckers were running in the spring, the operation becomes simplicity itself. After the root-canal has been filed, cleansed and dried, the sedative drug should be placed on a very large paper point, covered with a pledget of cotton and sealed under a double seal of temporary stopping and oxyphosphate of zinc cement. More than once I have spent much valuable time trying to locate a small paper point in the apical third of a very wide root-canal. Experience is a hard teacher but the lessons are remembered. Now I use a large paper point in all such cases.

Many teeth which have been traumatized do not require endodontic treatment. Indeed no credence should be given to any vitality test of such a pulp taken under eight weeks from the date of the accident. A pulp may be in a state of shock and as a result give a negative reaction to all vitality tests. However, the pulp may not have been severely damaged and after a rest period of several months may respond to normal test stimuli. Except in cases where minute portions of the dentine have been exposed it is wise to protect the open dentinal tubules. Sometimes a full coverage acrylic crown is placed over the tooth and this is a tragic error. If the pulp survives, the lack of thermal stimulus will result in a pulp at twenty years of age little smaller in bulk than one at ten years. In other words if at twenty years of age you decide to place an esthetic jacket crown you may be dismayed to find there is insufficient tooth structure to form a shoulder and a perfectly healthy pulp may have to be sacrificed for post retention. On the other hand if the pulp becomes necrotic there is no

way of making a vitality test and the first evidence of pathosis is the discovery of a draining sinus or of an area of rarefaction disclosed by a radiograph. Some textbooks written early in the century advocate the use of full gold crowns as a protection for such teeth. Children can be very cruel and the nickname of "goldietooth" may warp the whole personality of the growing child. Strange to say full coverage with stainless steel does not evoke the same distress. Many of the other children wear orthodontic bands upon their teeth and the child is often quite proud to be numbered amongst those who are lucky enough to be having their teeth straightened. While such coverage does allow a certain amount of thermal stimulus it should be used only as a last resort. Probably the easiest emergency restoration to prepare as well as being one which provides the surest retention with a minimum of tooth destruction is the crown with the open labial and narrow gingival band. This crown may be made as a gold casting or by trimming one of the ready

made stainless steel crowns. The great value of such a restoration is that it is not easily dislodged, allows the maximum thermal stimulus to the pulp and most important of all provides ample surface for future pulp tests. If the pulp should not survive the blow entry may be made to the pulp chamber through the lingual gold without removing the restoration.

To think in terms of preservation of the traumatized anterior tooth should be foremost in the mind of every dentist. An abscessed wrist can certainly be cured by amputating the arm at the elbow. In like manner a traumatized tooth can be treated by extraction, but when we dwell upon the wonders of the curative powers which lie within the body we ask ourselves, "Is either operation the true answer to the problem?" A knowledge of emergency endodontic treatment which results in the preservation of just one tooth in the mouth of a lovely child will give you a thrill of thankfulness which you will never forget.

2461 Bloor Street West

Common Forms of Stomatitis

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Stomatitis is not a common occurrence, particularly in adults. However, forms of stomatitis which occur most frequently should be considered first in making a diagnosis of stomatitis. Stomatitis resulting from traumatic agents is most frequently seen, and a diagnosis can be established by a history of contact with a traumatic agent and by appearance of

localized areas in the mouth where the traumatic agent was applied. Less frequently seen, but still common forms of stomatitis, are those resulting from infection, allergy and unknown causes. These less frequently seen diseases of the mouth have little in common relative to etiology, clinical course or treatment. They all have some common clinical features, however. These clinical features are erythema of the oral mucosa or gingiva, erosion and/or ulceration of the oral epithelium. The

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distinguishing features of these oral diseases is determined by a thorough history and careful evaluation of the clinical manifestations of the disease. On some occasions laboratory findings are of value. The purpose of this discussion is to point out the similarities and dissimilarities among these diseases which affect the oral mucosa.

PRIMARY HERPETIC GINGIVOSTOMATITIS

Primary herpetic gingivostomatitis is an acute fibrile disease which occurs most frequently in the first three years of life and for this reason has been described as the commonest form of stomatitis in young children. This disease also occurs in preadolescence, adolescence and in young adulthood but less frequently in each older age group.

The etiology of primary herpetic gingivostomatitis is the herpes simplex virus, one of the commonest infectious agents in humans. The communicability of the disease has been well demonstrated.

The clinical course of the disease is characterized by 1) direct contact by a previously uninfected person with a person who has the primary or secondary manifestations of the disease, 2) an incubation period of three days, 3) a pre-eruptive period of two or three days, 4) an eruptive period of two days which is followed by 5) a convalescent period of seven to ten days.

During the incubation period there are no manifestations of primary herpetic gingivostomatitis. It is during the pre-eruptive period that the affected person complains of sore throat, difficulty in swallowing and tender swelling of the upper neck — all of these complaints are the result of lymphoid involvement in the pharynx and associated lymph nodes. There are also general complaints of malaise, headache and fever. The fever in a child may reach 104° F. and in an adolescent or young adult may reach 102° F. or 103° F.

It is usually during the eruptive period of primary herpetic gingivostomatitis that

the dentist sees the affected person. At the time the disease becomes evident in the mouth, the temperature begins to decline and usually reaches normal a day or two following the appearance of a sore mouth. At this time the patient feels generally better but complains of marked tenderness of the mouth which prevents comfortable eating and the usual oral hygiene habits.

The clinical manifestations are 1) vesicles on the skin of the perioral region and lips, 2) ulcers on the mucous membranes of the mouth and 3) red, swollen, tender gingiva which tend to bleed on manipulation but show no evidence of necrosis at the free gingival margin or at the tip of the interdental papilla.

The ulcers of primary herpetic gingivostomatitis are shallow with a ragged border and yellow-gray base and are surrounded by an area of bright redness. The ulcers are secondary to vesicles; vesicles are seldom seen in the mouth because of the ease with which they rupture. There is frequently confluence of the ulcers resulting in a moderately large irregularly shaped area of ulceration. The ulcers occur anywhere in the mouth including the gingiva.

The gingival reaction in primary herpetic gingivostomatitis is quite striking. There is intense redness and swelling of the interdental papillae and marginal gingiva. The intensity of the redness is much more than that usually expected from local irritation of the gingiva by calculus or materia alba.

New ulcers may continue to appear for a day or two in the eruptive period. Within ten days of the beginning of the eruptive phase, most of the tenderness has subsided and the ulcers have healed.

The diagnosis of primary herpetic gingivostomatitis is based on the history and clinical manifestations. In children the problem of differentiation from other forms of stomatitis is not great, but in the adolescent and adult primary herpetic gingivostomatitis must be differentiated from drug reactions, erythema multiforme and sometimes necrotizing ulcerative

gingivitis. The history given by the person with primary herpetic gingivostomatitis is rather distinctive in most instances and serves to make the differentiation positive. The clinical findings are also distinctive but are frequently simulated by the other forms of stomatitis just mentioned. Laboratory findings are of little value although the differential white blood cell count will show a rise in lymphocytes as is seen in virus infections generally.

The treatment of primary herpetic gingivostomatitis is directed at making the patient comfortable since there is no specific treatment which will alter the course or severity of the disease. Oral lavage or mouth wash with a warm mild saline solution, made slightly alkaline by the addition of sodium bicarbonate, at hourly intervals during the early eruptive phase will do much to maintain oral hygiene and reduce tenderness. Antihistamines have topical anesthetic properties and when used in syrup form as a mouth wash prior to a meal will allow the patient to eat comfortably. The patient should also be kept on a soft, bland diet. Maintenance of nutrition and hydration are important objectives in the treatment of the patient. Infants with this disease should be cared for in hospitals by a pediatrician to assure proper supportive care.

SECONDARY HERPETIC LESIONS

The herpes simplex virus is an intra-epithelial virus which remains present in the tissues of the mouth and face following the initial experience with the virus. The virus is rendered inactive until there is sufficient lowering of body resistance locally or generally to permit reactivation of the virus. Upon reactivation the manifestations are local only. There is a great deal of variability in the frequency and severity of recurrent herpetic lesions. The recurrent lesions are the same in appearance as the primary lesions. On the lips they appear as the typical vesicles often described by the layman as "cold sores" or "fever blisters." In the mouth the

vesicles are seldom seen since they rupture rapidly to form the typical herpetic ulcers. In severe instances of recurrent herpetic lesions there may be multiple ulcers present in the mouth nearly all the time, while mild recurrences consist of only occasional single ulcers.

Recurrences of herpetic ulcers in the mouth are sometimes induced by foods and sometimes by trauma to the mucous membrane. The appearance of herpetic ulcers following eating of certain foods is more suggestive of irritation produced by the food than allergy to the food. Other causative relationships have been suggested but are difficult to substantiate.

The treatment of recurrent herpetic lesions on the lips is directed at making the patient comfortable and preventing situations which delay healing. When vesicles on the lips have collapsed and dried, the objective of treatment is to keep the involved tissue from becoming fissured. This can be accomplished by the regular application of a lip balm until healing is complete. The treatment of recurrent herpetic ulcers in the mouth is directed at reduction of pain and prevention of delayed healing. Cauterization of the ulcer base when the ulcer has been present more than a day is contraindicated since the healing is then delayed by further tissue damage by the caustic agent. The use of a mild alkaline saline mouth wash is effective in reducing pain and in reducing secondary infection.

In severe persistent recurrent herpetic ulcers, immune serum globulin has shown some promise as a means of controlling the recurrences. However, gamma globulin is expensive and its effect lasts only a relatively short time.

PERIADENTIS MUCOSAE NECROTICA RECURRENTS (PMNR)

This is an ulcerative disease of unknown etiology which involves the gland bearing mucosa of the mouth. PMNR is not common compared with herpetic stomatitis but must be differentiated from recurrent herpetic ulcers.

PMNR is characterized by recurrent, painful, deep ulcers on the lips, tongue, buccal and labial mucosa, palate and faucial pillars. These lesions first appear as a small necrotic zone which enlarges to one or two centimetres in diameter — the size of the mature ulcer. The ulcers, because of their depth, require three to four weeks to heal and heal producing a scar.

The general appearance of the ulcers of PMNR may cause them to be confused with recurrent herpetic ulcers, however close inspection and an adequate history will allow differentiation. The mature ulcer is large, has regular rolled borders and a somewhat granular clean base as compared with the small size, ragged border and fibrinous yellowish base of the recurrent herpetic ulcer. Both ulcers show the red zone of inflammation about them. Only the ulcer of PMNR heals with a scar. The history given is that of frequent recurrences over a period of several years.

Treatment of PMNR is universally unsuccessful. Although temporary remission may be produced by the use of Para-aminobenzoic acid, the serious side effects of this drug make it a dangerous therapeutic agent and it should only be administered with a close laboratory check on the complete blood count and liver function by a qualified person.

ERYTHEMA MULTIFORME

Erythema Multiforme is a disease which may or may not have oral lesions in the presence of skin lesions. The lesions exhibited in the mouth vary from ulcers to vesicles and bullae associated with an erythematous mucosa.

The etiology of erythema multiforme is unknown, although it has been closely associated with drugs, various infections and injection of antiserum.

The disease is seen often in young males and a history of recurrence is frequently obtainable. The onset of erythema multiforme is rather abrupt and may or may not be accompanied by a fever. The course of the disease is variable in length. None of the preeruptive signs and symp-

toms of primary herpes is seen which is an aid in differentiation.

The oral manifestations of erythema multiforme, if it is vesicular in character, may resemble primary herpetic gingivostomatitis closely. Following rupture of the vesicles ulcers are produced which closely resemble herpetic ulcers in size and character. However, the mucosa in general is erythematous in character and involves the anterior part of the mouth particularly, including the lips. The gingivae are generally not involved by erythema multiforme as they are in primary herpetic gingivostomatitis.

The presence of skin lesions of erythema multiforme or involvement of other mucous membrane areas aid in the diagnosis but are beyond the scope of this discussion.

Erythema multiforme with extensive involvement may be serious enough to result in death so it must be considered as a potentially fatal disease and should be referred to a competent physician for treatment. Treatment in general has been symptomatic, however steroid therapy has resulted in remissions in otherwise fatal cases.

NECROTIZING ULCERATIVE GINGIVOSTOMATITIS

This form of gingivostomatitis is commonly referred to as Vincent's infection, and for brevity will be referred to as such here. Roughly twenty-five names have been used for this disease of the mouth and the most commonly used is Vincent's infection.

The etiology of Vincent's infection is not entirely clear, however large numbers of fusiform bacilli and *Borrelia Vincentii* in the presence of the disease seem to implicate them as opportunists in the production of the gingival ulceration and necrosis which characterize the disease.

The recognition of a number of local and general predisposing factors is important in providing rational therapy for the disease. The local predisposing factors are poor oral hygiene, accumulation of calculus, poorly finished dental restora-

tions and other local situations which lower tissue resistance or initiate an inflammatory response. The general predisposing factors are not clearly definable except in the case of certain diseases which lower general resistance to infection such as some of the leukemias. Such general factors as lack of rest and poor nutrition are apparently contributory. Why some individuals develop Vincent's infection and others do not in the presence of numerous local and general factors is still unexplained. The disease is generally not considered to be communicable, although there are persons who feel that because epidemic outbreaks do occur that the disease is contagious.

Symptomatically Vincent's infection is characterized by tenderness of the gingivae and spontaneous bleeding. Constitutional symptoms of malaise and fever may or may not be present and if constitutional symptoms are present they appear with the appearance of the gingival tenderness and bleeding.

The clinical signs of Vincent's infection are necrosis and ulceration of the interdental papillae and free gingival margin. The area of necrosis is covered by a greyish pseudo-membrane under which is a raw, freely bleeding surface. Regional lymphadenopathy may or may not be present. Ulceration occasionally occurs elsewhere in the mouth and has the same general appearance as the gingival ulceration. When extra-gingival ulcers do occur the patient should be evaluated systematically for possible underlying systemic disease. Similarly patients who do not respond to treatment of Vincent's infection in 24 to 48 hours should receive adequate systemic appraisal.

The diagnosis of Vincent's infection is established by the presence of the clinical signs. The clinical signs of gingival inflammation, ulceration and necrosis with the production of a pseudo-membrane are typical. The accompanying complaints of spontaneous hemorrhage and extreme tenderness of the gingiva are always present.

Bacteriologic procedures contribute

little to establishing a diagnosis of Vincent's infection because of the presence of the fusiform bacilli and *B. Vincentii* in mouths of persons without Vincent's infection.

Complete blood count should be done whenever extragingival ulcers are present or whenever the disease does not respond to treatment in 24 to 48 hours. This is done to rule out the possibility of a hematologic disorder such as one of the leukemias. Additional systematic appraisal by a physician may be required in the absence of abnormal findings in the complete blood count.

Treatment of Vincent's infection locally is aimed at control of the acute phase, recontour of gingival tissues altered by the necrosis, and establishing proper habits of oral hygiene. The success of treatment depends on complete cooperation of the patient.

Control of the acute phase where the disease is confined to a limited area of the gingivae is accomplished by 1) careful debridement, 2) polishing the teeth, 3) spraying of interproximal areas with three percent hydrogen peroxide diluted to one-half strength with warm water, and 4) placing the patient on hourly mouth washes with the diluted three percent hydrogen peroxide. In general topical use of antibiotics should be avoided since the possibility of sensitizing the patient is great and a false sense of security results from the rapid response that is seen in the use of antibiotics. When extragingival ulcers are present or when the gingival infection is extensive, systemic penicillin is indicated and results in rapid control of the acute phase. With control of the acute phase treatment should be aimed at completing the removal of all sources of local irritation and the correction of contributing systemic factors if these exist.

The destruction of gingival tissue may require that they be recontoured to provide a physiologic gingival form. Where gingival destruction is minimal recontouring may be accomplished by the use of interdental stimulators. Marked

changes in gingival contour may require surgical treatment to reestablish physiologic contour.

The success or failure of the treatment depends entirely upon the patient's willingness to assume his responsibility of mouth care. A complete program of home care should be outlined including the proper toothbrushing method indicated by the contour of the gingival tissues, use of interdental stimulation and the use of dental tape once daily for maintenance of interproximal cleanliness.

MONILIASIS

Moniliasis is a form of mycotic infection caused by the fungus *Candida albicans*. The organism is the only pathogen of the genus *Candida* which consists of seven organisms. *Candida albicans* is an ubiquitous organism which can be cultured from mouths of normal persons.

Infection by *Candida albicans* is usually predisposed by the following states: debilitating disease, diabetes, pregnancy, long term administration of wide spectrum antibiotics by the oral route, vitamin B deficiency usually seen in chronic alcoholics, and infancy. Infections with *Candida albicans* may be superficial, subcutaneous or deep. Thrush is the superficial mycotic stomatitis and perleche is the angular cheilitis produced by *Candida albicans*.

Thrush is characterized clinically by erythematous areas on the oral mucosa with or without tiny areas of ulceration. Mild to moderate tenderness of the involved areas is usually the only complaint of the patient. In most instances the erythematous areas are covered by a creamy, white layer of mycotic colonies. Removal of the creamy, white layer reveals the underlying erythema and ulcerations which tend to produce punctate bleeding points. When the creamy, white layer of *Candida albicans* colonies is not present the diagnosis is not as easily made as when they are present, however at least one or two small colonies are almost always present.

Perleche is characterized clinically by

a moist erythema at the angles of the mouth with or without fissuring. The involved area is pruritic and with fissuring may be quite painful. Deep folds at the angles of the mouth tend to predispose to perleche because they provide areas of protection for growth of the organisms.

The diagnosis of infection by *Candida albicans* is made on the basis of clinical appearance usually. Smears are helpful when a microscope is available. Culturing requires ten days of growth on Sabouraud's glucose agar and corn meal agar for positive identification of the organism.

Treatment of thrush and perleche has recently become very effective with the introduction of nystatin, an antibiotic which is specific for *Candida albicans*. The antibiotic is available in several forms. The most favorable form for use in thrush is a mouthwash preparation of nystatin. For perleche a topical cream preparation is best suited for the area involved. A three day trial of nystatin in thrush may be sufficient to establish the diagnosis of infection by *Candida albicans* since the antibiotic is so specific for *Candida albicans*. Sensitization and side reactions are unusual in the use of this drug.

EROSIVE LICHEN PLANUS

Lichen planus is a dermatologic disorder classified by the dermatologists with the papulo-squamous diseases. Involvement of the oral mucous membranes may or may not be accompanied by skin lesions. A past history of lesions on the skin may be given by the patient in the presence of lesions in the mouth only.

The etiology of lichen planus is unknown. Its appearance following some emotional upset is frequent enough to suggest that an emotional factor is contributory to the initiation of the disease.

Lichen planus is somewhat variable in its oral manifestations, however one characteristic clinical pattern is almost always present. The characteristic clinical pattern is that of slightly elevated linear areas of hyperkeratinization which produce a lace-like network (Wickham's lines). The mucosa immediately surround-

ing the hyperkeritized areas has a bluish hue compared with uninvolved areas of the mucosa. Lesions of lichen planus may present a plaque-like appearance without the lace-like network but are rarely present alone. All areas of the oral cavity, including the gingivae and lips, may be involved but the most common site is the buccal mucosa.

Erosive lichen planus is lichen planus complicated by the desquamation of the involved epithelium. The desquamation of epithelium results in a clinical picture characterized by eroded areas which are bright red or bluish red in appearance and are surrounded by intact epithelium which is representative of the characteristic response of lichen planus. Brown pigmentation may be seen adjacent to eroded areas and are representative of previously eroded areas which have healed. The areas most frequently involved in erosive lichen planus are the buccal mucosa and gingivae.

The complication of lichen planus by erosion is accompanied by marked tenderness associated with the loss of epithelium in the eroded areas. Involvement of the buccal mucosa reduces the patient's tolerance to the presence of partial dentures and complete dentures because of the contact of denture base peripheries with the eroded buccal mucosa. Hot, spicy and acid foods are not tolerated because of the thinness or complete lack of epithelial covering in erosive lichen planus. Involvement of the gingiva in erosive lichen planus results in an inability of the patient to carry out proper oral hygiene procedures because of the tenderness of the gingiva.

Differentiation of erosive lichen planus from other forms of stomatitis which produce erythema and ulceration is based on the clinical finding of Wickham's lines at the periphery of the eroded areas. Biopsy is also an aid in establishing the diagnosis and is particularly important where plaque-like areas of lichen planus are to be differentiated from focal hyperkeratosis and leukoplakia.

The treatment of lichen planus is non-specific and usually unsuccessful. Steroids applied topically are of doubtful value as are all of the therapeutic agents which may be suggested for topical use. Long acting barbiturates may be indicated where an underlying emotional factor is discovered. Systemic use of bismuth and mercury compounds gives inconsistent results. Reassurance to the patient that the disease is not fatal nor cancerous is important for the patient's peace of mind.

STOMATITIS RESULTING FROM ALLERGY

Allergic stomatitis may result from contact with an allergen or it may result from ingestion of an allergen. The allergic phenomenon is preceded by a sensitizing contact with or ingestion of the allergen following which there is no allergic manifestation. Subsequent experiences with the allergen produce the changes in the mouth which are referred to as stomatitis venenata if a contact allergen produces the allergic response or stomatitis medicamentosa if the allergic response is the result of ingestion of a drug.

Numerous allergens are capable of producing allergic stomatitis. Well known contact allergens which affect the mouth are various essential oils, gums, antibiotics and chemicals such as procaine, zinc chloride, iodine, acrylic monomer and others. Essential oils and gums are frequently used in the manufacture of dentifrices, and a variety of chemicals are found in proprietary mouth washes and topical dental drugs. Other allergens may be found in occupational contacts and hobbies. Drugs which are frequent causes of stomatitis medicamentosa are phenolphthalein, sulfa drugs, antihistamines, barbiturates, antibiotics, and gold salts. Any drug is capable of initiating an allergic response at some time.

Contact allergies are manifested in the mouth as erythema primarily, but ulceration and vesiculation occur frequently in association with the erythema. If the allergen is in continuous contact with the mucous membrane, such as zinc oxide-

eugenol type of surgical dressing might be, the area of involvement often is more pronounced in the area of contact. When the allergen is contained in a dentifrice or mouthwash the contact manifestations are generalized.

Stomatitis medicamentosa produces a generalized allergic response in the mouth which is variable in appearance. Erythema, ulceration, vesiculation and bullae formation may occur, individually or in combination. The reactions in both stomatitis venenata and stomatitis medicamentosa are only suggestive of and not pathognomonic of allergic stomatitis. Local tenderness is associated with allergic reactions in the mouth. Constitutional symptoms are found only in severe reactions.

The diagnosis of allergic stomatitis is based on a history of contact or ingestion of a possible allergen. Withdrawal of the allergen should result in healing of the mouth in a period of two weeks. Confirmation of the diagnosis can be accomplished by readministration of the allergen, however allergic reactions tend to become more severe with each recurrence making this an ill-advised method of proving the diagnosis. Patch tests on the skin for oral mucous membrane allergy are not too reliable, and one assumes that mucous membrane and skin react to the same allergens which is not always the case. Scratch tests for determining allergens in stomatitis medicamentosa are extremely unreliable and may be accompanied by severe generalized reactions. A negative scratch test does not indicate that an individual is *not* allergic to a particular allergen.

The treatment of allergic stomatitis consists of withdrawal of suspected allergens. Antihistamines may be effective in depressing the allergic response. When withdrawal of suspected allergens fails it is necessary to have the patient keep a diary of contacts and things ingested to

aid in the search for allergens. The aid of a competent allergist is advised whenever severe or persistent allergic responses are encountered.

SUMMARY AND DISCUSSION

A group of stomatitides which have the common features of producing erythema and ulceration of the oral mucous membrane has been discussed. Some of these inflammatory processes produce changes in the mouth which are rather characteristic. Nevertheless each of the entities included here is frequently misdiagnosed. The misdiagnosis is the result of not obtaining distinguishing information or sufficient information in the patient's history or it is the result of not noting the exact type of change which has taken place in the oral mucosa. Laboratory studies are of little value as a diagnostic aid unless the diagnostician has narrowed the possible diagnoses to two or three by means of thorough history and clinical examination. A battery of laboratory tests which cover a wide range of diseases contributes little to the diagnosis of a particular disease, but two or three well chosen laboratory procedures may aid in clinching a diagnosis.

There are other forms of stomatitis which might be included here, however those described here are the ones which are most commonly encountered and which most often present problems of differentiation.

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Foliate Papillitis

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Glossodynia, glossalgia and glossopyrosis are terms applied with varying degrees of accuracy to painful conditions of the tongue.

The precise localisation of the painful part of the organ is not always easy except in certain recognised conditions such as Moeller's glossitis and geographic tongue, where lesions are clearly visible. Often considerable imagination is required to discover any lesion at all, and the case is liable to be labelled with one of the terms referred to above.

From time to time patients complain of symptoms which can be traced to the foliate papillae. In man these structures are largely vestigial although responsible for sensitivity to sour tastes (Orban 1949). They consist of vertical ridges on the lateral surfaces of the posterior part of the tongue. They vary considerably in size in different individuals, so that in some patients they are an obvious feature when the tongue is protruded while in others they are almost invisible.

Little attention appears to have been paid to pain arising in this area. Spencer and Cade (1931) refer to pain arising in hypertrophic fungiform and foliate papillae and attributable to neuritis of the terminal ends of the lingual and glossopharyngeal nerves. Colyer and Sprawson (1942) wrote that enlargement of the foliate papillae is usually caused by ab-

sorption of toxins from sepsis of dental origin. Both of these opinions are based on the assumption that the papillae are enlarged in cases of pain in this area but, owing to the considerable normal variation, it is difficult to be sure when they are enlarged. Spencer and Cade point out that there can be pain without any obvious enlargement of the papillae.

The term foliate papillitis, while not perhaps always strictly accurate, is a convenient one to describe painful symptoms arising in this part of the tongue. Although it may be associated with a more generalised glossitis, the tongue is usually otherwise normal. The condition may be unilateral or bilateral. In the unilateral cases it is usually possible to detect a mild degree of inflammation on the affected side, but often there is some doubt. In the more severe cases there is occasionally submaxillary tenderness.

Most of the patients are over forty years of age and women are affected more commonly than men. There is usually a history of several weeks or several months duration but one of the writer's patients had suffered for 20 years. Often the symptoms are intermittent.

Patients fall into three categories. First and easiest to diagnose are those cases where the papillae have been irritated by the teeth. Being situated where the tongue is widest, the foliate papillae are readily

traumatised by instanding natural teeth or encroaching artificial ones. When this occurs treatment is usually simple and effective, but some patients progress to the next category.

The second class of patients can best be described as suffering from self-inflicted injuries. When the tongue has been traumatised some patients become unduly conscious of it, more especially if on examination they observe the foliate papillae for the first time. Even with reassurance it may be some time before they declare themselves free of symptoms. Some patients demonstrate the condition by protruding their tongues and scraping their finger nails over the affected area with well practised dexterity. Others rub their tongues against their teeth, no doubt to reassure themselves that the symptoms persist. It seems likely that a chance biting of the tongue has started the trouble and the patient is responsible for its continuance. The principal treatment required is reassurance and a little instruction in the minute anatomy of the tongue.

The third category is a large one and consists of those cases which do not fall into the previous two. While many of the patients in the former groups associate the onset of their symptoms with the fit-

tings of dentures, in this category they state that it makes no difference whether they wear dentures or not. One of the writer's patients stated that his symptoms only appeared when he left his dentures out. Sometimes grinding or extraction of natural teeth assumed to be causing trauma has no effect. In some cases there is no apparent cause for the symptoms, and it may be that the condition is, in fact, a neuritis. Treatment is mainly directed to the removal of any possible cause of trauma or sepsis. A few patients obtain relief from the local or general use of antibiotics or the administration of vitamin B complex, but, in view of the common occurrence of intermissions and the probable existence of a psychological factor, the results of such treatment are difficult to assess. Probably it is best to keep these patients under observation so that they can be reassured from time to time.

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Some Considerations Pertinent to Antibiotic Therapy in Dental Practice*

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With the exception of the introduction of general anesthetics and local injectible anesthetics into the practice of dentistry, no other group of therapeutic agents has had a more dramatic impact on the profession than the antibiotics.

From the outset, however, the use of antibiotics in dentistry was fraught with many problems. When penicillin was first introduced into medicine, the extreme shortage of this life-saving material necessitated its rationing for use only in the most severe and potentially fatal infections. This situation was complicated further by a second problem — dentists' reluctance to administer drugs parenterally, the route required in the earlier days of penicillin therapy. It was not until the introduction of the orally effective chlortetracycline and oxytetracycline that antibiotic therapy for systemic infections became a general procedure in dentistry. Thirdly, until the last few years, an apathy, partially born of inadequate training in the use of drugs, gripped the profession. Some of this apathy still remains but much has been dispelled by the impera-

tive use of these agents. Dentistry has now taken proper cognizance of antibiotics, even indulging (as has medicine) in their indiscriminate use. Thus, dentistry has come face to face with many problems pertaining to various aspects of antibiotic therapy — both at the laboratory and clinical level.

It is the purpose of this discussion to consider some problems which even now face dentistry during the course of the use of antibiotics.

DESIRABLE PROPERTIES OF ANTIBIOTICS

A group of generalizations about the desirable properties of antibiotics will further place the subject matter in perspective. An antibiotic should: 1) have a selective and potent antimicrobial action against a broad range of microorganisms, 2) be bactericidal rather than bacteriostatic, 3) operate fairly independently of the host defenses, 4) not induce significant bacterial resistance, 5) demonstrate a satisfactory therapeutic index (LD_{50} divided by ED_{50}), 6) cause few or no side effects of importance, 7) not be materially affected by body fluids, exudates, pus, plasma proteins, or tissue enzymes, 8) preferably be water soluble, stable at room temperature, and stable in a dry state, and 9) be efficacious by several routes, especially orally. 10) Furthermore,

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absorption, distribution, and excretion must result in bactericidal levels in the blood and tissue fluids. 11) Excretion in the urine should be possible without renal injury. Lastly, 12) its manufacture should be possible at a reasonable cost and in adequate amounts.

PARENTERAL DRUG THERAPY — A PROBLEM FOR DENTISTRY

It is pertinent to mention again that the natural predisposition of a dentist is to administer drugs orally rather than parenterally. This is probably due to a lack of instruction by the dental schools in the use of parenteral drugs. Thus, intramuscular injection of antibiotics poses problems for dentistry which are not present in medicine — problems over and above those of patient discomfort, inconvenience, et cetera. This problem has been partially alleviated by the availability of buffered penicillin G preparations and penicillin V. This latter antibiotic is relatively insoluble and resistant to destruction in the acid medium of the normal stomach and, on the other hand, is soluble at the pH of the upper intestinal tract and is readily absorbed in the duodenum.

AVAILABLE ANTIBIOTICS AND THEIR ROUTES OF ADMINISTRATION

The choice of a systematically administered antibiotic must be made from among: oral penicillin V or buffered penicillin G; intramuscular procaine penicillin or intramuscular benzathine penicillin for prolonged action; intramuscular sodium or potassium penicillin G or K for immediate blood levels of penicillin; oxytetracycline, chlortetracycline, or tetracycline administered orally or intravenously; oral chloramphenicol; or erythromycin which will usually be administered orally. When there is overwhelming infection, when the patient is unable to ingest or swallow a capsule or syrup or hold a medication in the GI tract owing to vomiting, unconsciousness, et cetera, the intramuscular or intravenous route

must be utilized. Thus, the severity of the infection and the physical condition of the patient may predetermine the route of administration.

DISC VS. TUBE DILUTIONS

The choice of an antibiotic can best be made on the basis of disc or tube dilution procedures. There is relatively little disagreement that the tube dilution procedure is a more accurate method of determining bacterial sensitivity. Nevertheless, despite the accuracy of the latter technique, disc sensitivity procedures are utilized in most of the hospitals throughout the country to determine the antibiotic of choice. This perhaps incongruous situation has resulted largely because of the cost involved in performing tube dilution sensitivities on large numbers of organisms in a general hospital. However, it has not been conclusively proven that the clinical performance of an antibiotic can be more accurately predicted on the basis of tube dilution studies than on the basis of disc sensitivities. The problems of the disc sensitivity technique arise essentially from too much being "read" into the results of disc sensitivity testing rather than from innate errors in the procedure per se. It can thus be concluded that both techniques may be useful: that for maximum information, the tube dilution technique is preferable; while for broad scale preliminary use, the disc sensitivity method seems reasonably effective.

NARROW OR BROAD SPECTRUM DESIRED

Another problem concerns the need for a narrow spectrum or a broad spectrum antibiotic for intraoral use. The oral flora is a mixed one, including an extremely wide spectrum of microorganisms, many of which are potential pathogens. Few of these species, however, actually are often pathogenic. Ideally, an antibiotic suited for treatment of oral infections would act against these latter organisms in particular, leaving the remainder of the oral flora intact. At least in theory, the spec-

trum of potential pathogens is too broad for an anticipated favorable action by many of the available antibiotics.

Administration of a broad spectrum antibiotic, therapeutically or prophylactically, will destroy large numbers of many species of organisms, thereby providing "shotgun" protection of a sometimes valuable nature. However, the undesirable consequences of such antibiotic therapy include the destruction of so large a portion of the oral flora that overgrowth of the remaining organisms, particularly *Candida albicans*, may occur.

On the other hand, when an antibiotic which has an extremely narrow spectrum (which probably does not disrupt the oral flora to nearly the same degree as the broad spectrum antibiotics) is administered topically in the mouth, the lack of its activity against the many potentially pathogenic organisms not included in its spectrum also becomes a matter of some consequence. This is particularly true when the antibiotic is used prophylactically.

THE ULTIMATE CHOICE OF A SYSTEMIC ANTIBIOTIC

From the viewpoint, therefore, of activity against the most commonly pathogenic oral organisms, the initial choice seems to fall between penicillin and/or one of the broad spectrum antibiotics including oxytetracycline, chlortetracycline, or tetracycline. The availability of reasonably active and reliable oral penicillin preparations has considerably re entrenched penicillin as a useful agent in dentistry. Oral penicillin administration results in fewer gastrointestinal disturbances than is the case with broad spectrum antibiotics. It also predisposes to less overgrowth of non-inhibited organisms. Furthermore, by the oral route, oral penicillin is relatively more free from alarming allergic properties than when given intramuscularly. Despite these facts, however, there are many who feel that the antibiotic of choice for many oral infections should be one of the broad spectrum antibiotics. Since tetracycline is felt to have some-

what fewer side reactions perhaps than chlortetracycline or oxytetracycline (less gastrointestinal upset in particular), use of tetracycline rather than oxytetracycline or chlortetracycline in dentistry seems indicated.

RECENT TETRACYCLINE DERIVATIVES

An early report appearing in the literature indicated that all of the presently available commercial tetracycline capsule preparations, whether they contain citric acid, glucosamine, sodium hexametaphosphate, or phosphate complex, produce blood levels in man which are essentially of about the same order of magnitude. Furthermore, it was reported that no clinically significant differences were observed in patients to whom these products were administered in comparable dosages.

It has been suggested that improved absorption with glucosamine-tetracycline preparations may be due to the removal of dicalcium phosphate from the capsule preparation ingredients.

Subsequent studies, however, perhaps do indicate that somewhat higher blood levels may be attained with the glucosamine-tetracycline combination. Thus, the whole subject rests in a state of utter confusion.

BACKING UP THE LINE

On the other hand, when penicillin or initial broad spectrum therapy has proven unsatisfactory, the use of erythromycin seems indicated to "back up the line". The problem of whether or not erythromycin should be the initial drug of choice under such circumstances must be considered in the light of the need to keep such an agent available for organisms resistant to other antibiotics and in the light of the increasing incidence of resistance of organisms to erythromycin also. Where possible, the risk of producing one more strain of staphylococcal organisms resistant to erythromycin should be avoided if penicillin or broad spectrum therapy might have sufficed.

DEVELOPMENT OF RESISTANCE BY ORGANISMS, ESPECIALLY STAPHYLOCOCCI

Not the least of the problems concerned with antibiotic therapy is the development of resistance of organisms which has occurred at an uncomfortably rapid rate during the past decade — especially resistance of the staphylococcus aureus microorganism. The development of resistance of these organisms to penicillin and the broad spectrum antibiotics led directly to the increasing study of new antibiotics capable of managing penicillin and tetracycline resistant staphylococci. Since for a period these otherwise resistant organisms were highly sensitive to chloramphenicol, at one time chloramphenicol could have been considered such a "covering" antibiotic. This was so, however, when chloramphenicol was being used relatively infrequently owing to what were later found to be substantially prematurely drawn conclusions that chloramphenicol was frequently a severe marrow depressant. As time has gone by and chloramphenicol has been found not as toxic as had once been thought, and as this antibiotic came into more widespread use in the treatment of resistant staphylococcal infections, staphylococci have demonstrated increasing resistance to this antibiotic also. A similar problem of resistance has, of course, been found with numerous other bacterial species — although in no instance has the problem been so pressing as in the case of staphylococcus aureus. Thus, intensive efforts have been directed at obtaining an antibiotic useful against resistant staphylococci — a program which bore fruit with the development of erythromycin, carbomycin, oleandomycin, novobiocin, vancomycin, kanomycin, ristocetin, and thio-strepton. The activity observed in this field is adequate proof of the fear that such infections might some day be found to be totally out of hand.

THE RACE AGAINST RESISTANCE

The introduction of the tetracyclines temporarily took some of the immediate pressure off the use of penicillin in terms

of the development of resistant staphylococci. However, it was all too soon realized that staphylococcus aureus organisms rapidly became resistant and simultaneously cross-resistant to all three of the broad spectrum antibiotics — tetracycline, oxytetracycline, and chlortetracycline. Thus, the tetracyclines can hardly be considered antibiotics of choice for staphylococcal infections at the present time. Interestingly enough, the development of resistant strains of staphylococci has occurred predominantly in hospitals — whereas in the street and in the home resistance of staphylococcal organisms is not nearly so prevalent.

THE ANTI-STAPHYLOCOCCAL ANTIBIOTICS

Carbomycin lost favor rapidly since it apparently offered little activity which erythromycin did not possess but did produce more than its share of undesired gastrointestinal disturbances. At one time erythromycin could be demonstrated to be nearly uniformly effective against staphylococci resistant to penicillin and thus came into widespread use wherever an infection proved resistant to penicillin. This activity, coupled with the opportunity of administering the drug orally and a truly remarkable absence of side reactions following its use, resulted in a deserved and widespread popularity. Oleandomycin has not proven to be the highly effective agent which it was once hoped that it might be. Combinations of oleandomycin with tetracycline were at first thought to have synergistic action. Upon examination by numerous investigators, however, such a conclusion seems open to serious question. More recently, novobiocin, administered orally, has appeared on the picture for use in the treatment of these infections.

Unfortunately, not infrequently, cases of staphylococcal septicemia or overwhelming staphylococcal infection have necessitated the use of intravenous preparations of an antibiotic to which the staphylococcal organism might be sensitive. It is against such a background that the intravenously administered vancomycin and ristocetin have been introduced.

The relative in vitro effectiveness of 13 antibiotics against 13 "epidemic" strains of staphylococci cultured at the Jefferson Medical College Hospital during 1957 was determined by Wise¹ using the tube dilution method. Neomycin and bacitracin were uniformly bactericidal for these strains. Penicillin, streptomycin, and the tetracyclines had little or no effect. Approximately 50 per cent of the strains were resistant to erythromycin. Thiostrepton was bacteriostatic for these strains in lower concentrations and was bactericidal at higher concentrations (as determined by failure to grow upon subculture) for all 13 strains. All were moderately susceptible to the bacteriostatic effects of chloramphenicol, but this antibiotic lacked bactericidal effects, as did oleandomycin and ristocetin.

THE HOSPITALIZED PATIENT AND RESISTANT STAPHYLOCOCCI

The above considerations have led to the total re-evaluation of many hospital surgical procedures and the hospital care of patients. The following hospital precautions or others similar in nature have been suggested to head off a "Golden Plague". The patient with a resistant staph infection should be isolated in a private room. Only persons wearing gowns, masks, gloves, and caps should be in the room. Hands are to be washed before and after the patient is touched. Dressing should be with individual packs, and regular dressing carts are to be kept out of the room. Laundry and linen are to be separated and washed with particular care, away from general hospital wash, after autoclaving. The patient's room should be washed and thoroughly prepared before another patient is admitted. Investigation as to the possible cause of infection should be made to prevent further difficulty. Nurses and aides who are staphylococci carriers should not be allowed in the operating room and should be masked if they are to remain on the surgical service. All patients should be masked while they are in the operating room. Operating suites are to be equipped

with positive-pressure ventilation. Treatment of an infection should be specific and based on antibiotic sensitivity studies.

TOPICAL ANTIBIOTIC AGENTS

Thus far, comparatively little has been noted concerning such topical agents as neomycin, bacitracin, polymixin B, tyrothricin, and thiostrepton. All of these, except polymixin B, are in some measure effective against the staphylococcus aureus organism.

Bacitracin has been found to be "kind to" the oral tissues and extremely effective against staphylococcal infections. It is indeed possible that it has not been used topically in adequate dosage in the various oral topical preparations available to have permitted the demonstration of dramatic topical action. Polymixin B, hitting an essentially gram negative spectrum, can be used only as an adjunct in a combination preparation which must also include an antibiotic effective against the gram positive organisms which represent the predominant pathogens of the oral cavity. Tyrothricin, in the amounts in various preparations commercially available for oral use, has never been found to be harmful to the oral tissues when applied externally to the oral mucous membranes. Nor, however, has it been found spectacularly effective in the treatment of oral or pharyngeal infections.

Neomycin, which possesses a relatively broad spectrum, undoubtedly also shares the potency required for effective oral use but has on occasion resulted in a stomatitis reaction somewhat characteristic of topical tetracycline therapy. Thiostrepton is now being investigated clinically.

THE CASE AGAINST TOPICAL ANTIBIOTIC THERAPY

Thus, topical antibiotic therapy intraorally has not achieved wide use owing largely to: 1) the irritant, allergic, and overgrowth phenomena associated with the broad spectrum antibiotics; 2) the violent allergic manifestations apparent on occasion with oral topically applied penicillin in minimal dosage — which

therapy may serve either a sensitizing role or as a triggering agent in a patient already sensitive to penicillin; 3) a general lack of dramatic activity on the part of bacitracin or tyrothricin attributable, perhaps, to the relatively small, even insignificant, amounts of these substances which have been incorporated in therapeutic preparations to this date; and 4) side reactions to the excipients and flavoring agents required to insure palatability of the final antibiotic formulation.

CANDIDA ALBICANS OVERGROWTH AND ANTIFUNGAL ANTIBIOTICS

Overgrowth of *Candida albicans* has been implicated in many of the oral reactions to topically applied (orally) antibiotics and in similar oral reactions following the systemic administration of antibiotics which depress large segments of the oral flora. Such overgrowth phenomena have led to the useful introduction of a number of valuable antifungal antibiotics for treating these superinfections. Antifungal antibiotics include mycostatin (which unfortunately has an offensive taste although it has unsurpassed effectiveness in the treatment of oral moniliasis) and, more recently, amphotericin B which has properties essentially similar in spectrum to mycostatin but which is devoid of the unpleasant flavor of that compound. Hence, amphotericin B is more acceptable to the patient. Residual tissue inflammation may remain even after the successful treatment of the above noted oral, antibiotic-induced, moniliasis. Occasionally, this inflammation may require the administration of a topical corticosteroid, such as prednisolone or triamcinolone acetonide after or concomitantly with the antifungal agent in order to effect full healing. Other non-antibiotic antifungal agents are available for the treatment of oral moniliasis; the above two have been mentioned in particular since this is essentially a consideration of antibiotics.

A "burning tongue" is a frequently observed residual complaint after eradication of the signs of an antibiotic induced glossitis or stomatitis — especially in

patients prone to psychosomatic difficulties who subsequently fail to relinquish their oral fixation and come to make use of their previous disturbance at the psychogenic level.

OVERGROWTH BY RESISTANT ORGANISMS ELSEWHERE

Overgrowth of resistant organisms is not always confined to an oral moniliasis. Staphylococcal enterocolitis remains a dread sequelae in a very small percentage of patients treated with the tetracyclines. It is because of the possibility of such disturbances that we are particularly anxious to have orally effective anti-staphylococcal agents available for gut lumen action. When such reactions become of a fulminating variety and septicemia occurs, it is obvious that it is imperative to have available such intravenous antibiotics as ristocetin, vancomycin, and intravenous erythromycin.

The picture would be by no means complete in terms of overgrowth of organisms were it not mentioned that *C. albicans*, for instance, may overgrow in the intestine, rectum, vagina, et cetera, as a result of broad spectrum therapy. Thus, the problems of overgrowth are seen in various parts of the body, being observed in the mouth where therapy is our responsibility or elsewhere in the body following treatment which may have been instituted for oral infections.

HYPERSENSITIVITY

Hypersensitivity reactions represent a major problem of antibiotic therapy. Despite the fact that penicillin remains a remarkably non-toxic material, the incidence of reactions to penicillin of an allergic nature is already sufficiently high (and climbing higher) to require caution in its use particularly when administered parenterally. These reactions may range from a mild urticaria to a fatal angioneurotic edema and from overwhelming nearly instantaneous allergy to that of the delayed sensitivity types.

It has long been relatively obvious that skin testing for penicillin sensitivity is an

unreliable technique. Other techniques for establishing sensitivity also are either unreliable or unrealistic for general practitioner use. Methods employed commonly for demonstrating circulating antibodies have not proven effective in screening out the penicillin-allergic patient. Thus, penicillin must number among its most distinct disadvantages the hypersensitivity phenomena associated with its administration and the developing resistance of many organisms. Still, it remains in the very front ranks of antibiotics for clinical use. Hypersensitivity is of considerably less importance when considering the broad spectrum antibiotics although, as with all of the antibiotics in wide use, nearly any reaction or hypersensitivity phenomenon can be documented in the literature as having occurred following their use.

TOXICITY

Toxicity must, of course, be differentiated from hypersensitivity phenomena and idiosyncrasy. The systemic toxicity of neomycin, bacitracin, and polymixin B have been largely responsible for the confinement of their use predominantly to topical preparations. All three are too often nephrotoxic in adequate concentrations for systemic use. In addition, the systemic administration of neomycin in amounts sufficient to obtain therapeutic blood levels often results in eighth nerve damage.

As stated previously, all the systemically administered antibiotics have demonstrated toxic reactions of "sorts" on occasion. Of those which have passed the test of full scale clinic use, however, toxicity is not rated as one of the primary problems at usual therapeutic dosage except in the case of prolonged streptomycin and dihydrostreptomycin therapy and in the rare patient treated with chloramphenicol. The incidence of side reactions observed with kanamycin requires further study.

STABILITY

Other problems such as stability are important to both the manufacture, formu-

lation, and transportation of antibiotics. It is probable that antibiotics which do not pass certain stability requirements are so unsuited to clinical use that their work-up seldom passes the drawing-board stage.

DURATION OF THERAPY

An interesting and as yet unsolved question of antibiotic therapy concerns the duration of therapy required to satisfactorily treat oral infections.

Numerous studies dealing with one antibiotic or another have been concerned with data on the duration of systemic administration of antibiotics. A review of the dental literature has been undertaken to ascertain the duration of therapy necessary with various drugs for the treatment of oral infections. These studies are now in progress.

The above described overgrowth of *Candida albicans* organisms in patients treated with broad spectrum antibiotics and the duration of therapy required for such overgrowth are now considered very real problems which have caused increasing concern and which have stimulated efforts at documentation and study.

Where therapy with a broad spectrum antibiotic is expected to extend for a period of time which may permit or encourage monilial overgrowth, the concomitant administration of an anti-monilial agent such as mycostatin should be considered as a prophylactic measure when instituting broad spectrum antibiotic therapy — or certainly at such time as antibiotic therapy approaches that duration following which monilial superinfection might become a problem. Thus, the advisability of considering the administration of or the need for immediate co-medication with an anti-monilial agent during the course of broad spectrum antibiotic therapy of dental infections may be directly related to the duration of broad spectrum therapy required.

A VEHICLE FOR TOPICAL THERAPY

One of the most important matters concerned with the success which may be

anticipated from the topical application of antibiotics within the mouth (a matter which may have much bearing upon the possible choice of topical versus systemic administration) is the manner of application of therapeutic agents to the oral mucous membranes. Over the years, therapy of oral lesions including superficial infections amenable to topical antibiotic therapy has been handicapped almost to the point of ineffectiveness by the inability of the vehicles in which the active ingredients were incorporated to adhere to the treatment site.

A new vehicle has been recently prepared, compounded of four essentially non-toxic ingredients (gelatin, pectin, and carboxy methyl cellulose in a mineral oil-polyethylene base) which has the ability to adhere and maintain itself at the site of application over relatively prolonged periods. Such properties thereby increase the potential effectiveness of medications by maintaining higher concentrations of the active agent at the site of a given lesion for longer periods and also permit a decrease in the total amount of drug utilized. Just how advantageous such a vehicle adhesive will be found in the treatment of oral infections when antibiotics or other antibacterial agents are incorporated therein must yet be resolved by clinical studies.

A GLANCE AT THE FUTURE

A discussion of the clinical usage of antibiotics has been avoided, but it should be noted that there is evidence in the German literature that it has been possible to assay both penicillin and tetracy-

cline in the so-called dental lymph following the administration of these drugs parenterally. What avenues such therapy may open are a matter for speculation.

Another possibility should also be considered — the sealing of antibiotics with reasonable diffusing properties into deep seated caries in an attempt to destroy the organisms pulpal to these areas and in adjacent possibly contaminated pulp tissue.

FAILURES IN ANTIBIOTIC THERAPY

Lastly, it is noted that when a failure with antibiotic therapy is observed, it can more often than not be attributed to one of the following problems: 1) an essentially insensitive micro-organism; 2) development of resistance by micro-organisms; 3) superinfection; 4) inadequate dosage; 5) tardy initiation of therapy; 6) fatal manifestations or complications of a disease not influenced by bacteriostatic or bactericidal action (for example, pemphigus); 7) failure to provide required surgery; 8) lack of required comedication; 9) the masking of gross evidences of infections permitting the establishment of chronic infection; or 10) the use of an agent topically, where a systemic agent was needed and indicated.

The author expresses his appreciation for the assistance of Mrs. Helene W. Kutscher.

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630 West 168 St.

Canadian Dental Association National
Convention in Ottawa,
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Reduction of a Mandibular Fracture

(Local Anaesthetic Proves Successful Following
Cardiac Arrest Under General Anaesthetic)

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CASE REPORT

On January 1, 1959 a twenty year old white female entered hospital for treatment of injuries suffered in a recent car accident. She had received a blow to her chin and severe lacerations to her face. The blow resulted in a fracture at the left mental region, as well as a fracture in the right angle of the mandible.

Her past medical history was non-contributory. The patient was a well developed, well nourished white female of one hundred and thirty pounds. She was slightly distressed, and there was an ob-

vious swelling of the right side of the face.

ORAL EXAMINATION.

The patient had a moderate degree of trismus, together with a fair amount of edema in the submandibular region. Except for the third molars, which were unerupted, all her teeth were present, and in excellent condition. The right mandibular third molar was in the line of fracture. The occlusion presented a cross bite on the right side, with an exaggerated overbite and overjet anteriorly. This was due to the marked displacement of the fractured fragments. A discontinuity in the lower border of the mandible could be readily palpated. The rest of the oral examination was essentially negative.

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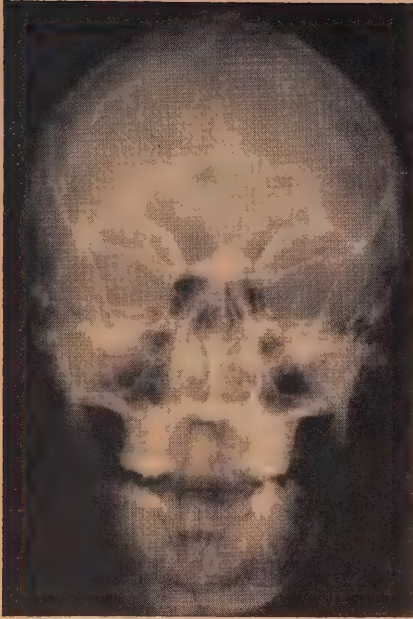


FIGURE 1

A jaw film taken pre-operatively 19/1/59. Note bilateral fractures of the mandible.

RADIOGRAPHIC EXAMINATION.

Posterior-anterior films of the skull and jaws, and right and left lateral oblique jaws were taken. They revealed a fracture of the mandible, anterior to the angle on the right side, and a fracture to the left of the centre line, between the lateral incisor and cuspid teeth. There was medial and superior displacement of the posterior fragment on the right side (See Fig. 1).

MEDICAL EXAMINATION.

The chest was clear to auscultation and percussion. There were no cardiac murmurs, and the blood pressure was recorded at 126/78. There were no abdominal masses, and the liver, spleen and kidneys were non-palpable. The



FIGURE 2

Progress film taken after initial attempt to reduce the fractures by extra-oral pin fixation. Film made on 21/1/59.

neurological examination was essentially negative, except that there was some anaesthesia present in the lower right mandible and lip. The blood study and urinalysis were reported well within normal levels.

At the time of her admission to the hospital, the soft tissue lacerations were debrided and repaired and two days later, on January 19th, a general surgeon attempted to reduce the fractures and immobilize the fragments with Roger Anderson pins under general anaesthesia. The patient was induced with sodium pentothal, intubated, and carried with cyclopropane and oxygen. Some difficulty was encountered in adequately reducing the fractures on the right side, as the superior fragment was rotated. Progress radiographs taken post-operatively showed that the Roger Anderson pins inserted extra-orally, had failed to provide proper reduction, and that the fractured segments were not being held in favourable alignment. (Fig. 2.)

At the time when the endotracheal tube was being removed and the pharynx was being aspirated, the patient suffered a cardiac arrest. The left thoracic cavity was promptly opened through the seventh intercostal space, and the pericardial sac was incised and entered. Cardiac massage was carried out for about twenty-five minutes and during that period, adrenalin, coramine, solucortef, westocaine and calcium chloride were injected into the left ventricular cavity. Fibrillation was detected and the defibrillator was employed in successive stimulating shocks. This was repeated three or four times in an effort to aid the heart in settling down into a regular rhythm and normal contraction. The pericardial sac was then closed with catgut sutures, and the thoracic cavity with black silk. A foley catheter was utilized to allow drainage. During the procedure, the patient continued to breathe spontaneously and shortly afterward showed evidence of returning consciousness.

Postoperatively, the Electro-cardiogram showed a rhythm of sinus origin, with minor alterations such as a flattening of the T waves in all leads and prolongation in some leads of the ST segments. All of these returned to normal within a few days.

Radiographs of the chest made post-operatively showed some degree of atelectasis, with pleural effusion in the lower left lung field. This cleared within a few weeks after adequate antibiotic therapy.

It was after the patient had recovered from this ordeal that we saw her in regard to the mal-aligned fractures. It was unanimously agreed that reduction of the fractures with direct wiring of the fragments and immobilization of the jaws was mandatory. It was proposed to carry out the procedure with adequate sedation and local anaesthesia.

OPERATIVE PROCEDURE.

Pre-operatively, the patient received sodium amytal three grains at 2.30 P.M. and demerol 75 mgm. with atropine 1/150 grain at 2.45 P.M. The patient was admit-

ted to the Operating Room at 3.30 P.M., at which time sodium nembital 2½ grains were administered intravenously. The inferior dental, long buccal and lingual nerves of the mandibles, and the posterior superior alveolar, naso-palatine, and anterior palatine nerves in the maxillae were anaesthetised. The anaesthetic used was xylocaine with epinephrine 1/50,000.

Intra-orally, an Erich arch was applied at the buccal and labial aspects of the mandibular teeth. The arch was divided at the left anterior fracture site and a Risdon arch wire was applied to the maxilla in the usual fashion. The Roger Anderson pins were removed.

The patient's face and neck were now prepped with cetavlon. The outer jaw on the right side was infiltrated with xylocaine local anaesthesia including the anterior cutaneous colli and greater auricular nerves. Sterile drapes and towels were again applied in the usual manner to allow for proper visualization of the lower border of the mandible.

A three inch incision was made through the skin just beneath the shadow line of the mandible. The incision was carried through the skin, subcutaneous structures, fascia, muscle and periostium. The facial artery was identified, clamped, cut and tied off with 000 catgut. The masseter muscle and periostium were reflected upwards and posteriorly to properly expose the fractured ends on the right side. The posterior fragment was found to be riding superiorly and medially to the anterior segment and was also slightly rotated. The fragments were grasped with bone forceps, and with some effort, brought into proper alignment. Two holes were drilled, on each side of the fracture line, and 26 gauge stainless steel wire was then inserted through the same posterior hole and carried medially and laterally beneath the inferior border of the mandible in a figure S as shown in Fig. 3.

The deeper structures were then closed with 000 interrupted catgut sutures, and the skin incision was closed with 0000 interrupted black silk. The closed incision was coated with vaseline, and a pressure



FIGURE 3A and 3B

Films taken on 28/1/59 immediately after open reduction, direct intra-osseous wiring and intermaxillary immobilization had been done.

bandage was applied. The teeth were then brought into proper occlusion by gentle manipulation. The anterior fracture was reduced by tightening a wire placed around the hooks at the cut ends of the Erich arch and the jaws and teeth were immobilized by means of the intermaxillary wires.

The patient withstood the procedure well, and the immediate post-operative result was judged quite satisfactory. Half-way through the procedure, the patient received demerol 50 mgm. intravenously to relieve pain caused from manipulation of the fragments into alignment.

The post-operative course was uneventful. The patient was kept on massive doses of antibiotics; discrysticin 2 cc. was administered every 8 hours, achromycin 100 mgm. every 8 hours for three days, and tetrax 250 mgm. every 6 hours for five days. Demerol 50 mgm. was given every four hours as required for pain, and sodium secenal 1ss was administered at bedtime. The patient was fed a liquid diet of sustagen and paladec in milk shakes, clear

broth, tea, coffee, etc. Feedings were given every three or four hours daily. The patient's dentist, Dr. G. Oswald, supervised the oral hygiene, and tightened the interdental wires periodically as required post-operatively.

The skin sutures were removed on the sixth post-operative day and the patient discharged two weeks later. Dr. Oswald removed the intra-oral arches and intermaxillary wires at the end of the sixth week, at which time there was good bony union and excellent occlusion. Fig. 4.

DISCUSSION.

It was thought that the reduction of the fractures in this case would be best carried out under local anaesthesia and sedation, in order to prevent any further cardiac complications.

Cardiac arrest can be defined as the sudden cessation of effective heart action and, as a result, the cessation of movement of blood through the vascular system. Cardiac arrest may be either cardiac

standstill or ventricular fibrillation. When fibrillation occurs, forceful contraction of the ventricles is not possible.

Reflexes of various kinds have long been implicated as precipitating factors in cardiac arrest. It is a well established physiological fact that sensory reflexes affect cardiac action. All sensory receptors, when stimulated, can influence cardiac action, either directly by way of the cardiac nerves, or indirectly through humoral agents, such as the release of epinephrine into the blood stream.¹

Since the vagus nerve is cardio-inhibitory, investigators have logically cast suspicion on this nerve in instances of cardiac arrest. They have shown that irritation or stimulation of the vagus nerve affects cardiac action. It is well recognized that vagal stimulation will not, under ordinary circumstances, produce cardiac standstill of a normal heart. However, surgeons are not dealing with normal hearts in all instances, and even a normal heart, functioning under a general anaesthesia, may be in an unusual and sometimes dangerous environment. Therefore, in either situation, the ordinary rules of cardiac behavior may not pertain^{1,2}.

There are many other instances cited in medical literature in which cardiac arrest has occurred after a seemingly trivial activity such as insertion of a laryngoscope or endotracheal tube. Because of these authenticated reports, the vagal reflexes have been implicated as the initiating factor, if not the sole cause of cardiac arrest.

Oxygen lack can also produce central nervous system depression, causing respiratory and vaso-motor failure, with resultant cardiac hypoxia. Oxygen lack can also have a direct effect on the myocardium and even short periods of hypoxia can produce cardiac standstill.

Caution must be exercised in the use of cyclopropane, trichloethylene and fluothane as cardiac arrest following their use has been reported. Artificially induced hyper-ventilation may cause hypoxia from vaso-motor depression and thus cardiac arrest from direct myocardial paralysis.



FIGURE 4
Film taken on 3/4/59 or nine weeks post-operatively. Note healing and occlusion.

Diagnosis of cardiac arrest is made by absence of palpable pulse in a major blood vessel. Treatment must be immediately instituted and artificial respiration with adequate airways, must be established promptly. There is no time for intubation or for operating room asepsis. The chest should be opened immediately, and the heart massaged manually. Everything should be done to restore blood volume and to aid the heart to regain its normal spontaneous beat.³

It is felt that in this case, the vagus nerve was stimulated during the removal of the endotracheal tube, and during aspiration of the pharynx. It was only through the immediate and persistent efforts of the patient's surgeon, Dr. J. D. Black, that she is now fully recovered. Her memory is excellent, her reflexes are normal and indeed there is no apparent ill effect. (Figure 4.)

Open reduction of jaw fractures allows the fracture sites to be seen directly. The ends of the fragments can be manipulated into proper alignment and wired, so that there is no doubt in the surgeon's mind that the fracture has been reduced properly. It is felt that pins may best be used

in cases where loose fragments are to be retained, and held stationary with the remainder of the reduced portion. We use and recommend open reduction and direct intra-osseous wiring whenever there is a displaced edentulous fragment involved. Indeed, we are not keen advocates of extra-oral pin fixation at any time.

CONCLUSION.

This case has been reported because it has been the second time in the experience of the writers when we have successfully performed an open reduction under local anaesthesia. It is reported to emphasize the fact that this type of procedure can be performed when necessary, and also to pose the query whether more injuries of the jaws could not be best handled with local anaesthesia and sedation as out-patient procedures.

We wish to point out the severe complications which can result from simple procedures during a general anaesthesia. The

surgeon must always be on the alert, not only during the course of the operation, but also during the induction of the general anaesthetic with intubation, and at the end of the anaesthetic during extubation. This presentation is no condemnation of general anaesthesia, and it must be pointed out that cardiac complications have been reported as also occurring when local anaesthesia was being used.

We wish to thank Drs. J. D. Black and G. Oswald for their cooperation and help in preparing this paper. We want to congratulate Dr. Black in his successful adventure with this ever present surgical threat cardiac arrest.

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THE CANADIAN DENTAL ASSOCIATION ANNUAL CONVENTION

Chateau Laurier

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September 25-28, 1960

Survey of Dental Practice — 1958

Part I of this report, the introduction, and Part II, relationship of income to location and age, were published in the October issue of the *Journal*. Parts III and IV appear below and the final part of the survey report will appear in the December issue. Reprints of the complete report will be available early in 1960.

III—INCOME RELATED TO EQUIPMENT AND TIME

There appears to be a trend toward increasing the number of dental chairs in practices. In 1958, just over 44% (53.6%)* of Canadian dentists had one chair, and over 48% (41.5%) were using two dental chairs. The dentists practising with one chair averaged \$8,562 (\$6,508) in net income in 1958. The average net income of dentists with two chair practices, as shown in Table 8, was \$11,789 (\$8,793). Since 1953, the number of dentists using two dental chairs has increased 6.7%, and the number with only 1 chair has decreased 9.5%.

TABLE 8
Independent Dentists
1958 Mean Net Income—Number of Chairs

Number of Chairs	Percent of Dentists	Mean Net Income
Blank	2.7	\$ 9,803
1	44.1	8,562
2	48.2	11,789
3	4.0	14,618
4	.5	16,989
5	.3	10,697
6	.1	21,500
10	.1	12,800
	100.0	10,453
CDA survey of dental practice 1958.		

Table 9 shows that more than 92% of dental offices have x-ray equipment, an increase from 89.8% in 1953. Dentists with this equipment again reported net incomes higher than those without it and slightly higher than the national average net income of independents.

TABLE 9
Independent Dentists
* 1958 Mean Net Income—X-Ray Equipment

X-Ray Equipment	Percent of Dentists	Mean Net Income
Blank	1.0	\$ 8,638
Yes	92.2	10,710
No	6.8	7,252
	100.0	10,453
CDA survey of dental practice 1958		

In Table 10 it is observed that 20.3% of dentists reported having gas machines in their offices. This represents an increase of 2% over 1953. In contrast to 1953, those dentists with gas equipment in 1958 reported net income slightly higher than those without gas.

*Throughout this report, figures in brackets refer to the survey of 1953.

TABLE 10
Independent Dentists
1958 Mean Net Income—Gas Machines

Gas Equipment	Percent of Dentists	Mean Net Income
Blank	1.4	\$ 7,193
yes	20.3	10,579
no	78.3	10,479
	100.0	\$10,453
CDA survey of dental practice 1958.		

It appears that dentists are making efforts to streamline practice methods in order to serve more patients and to attempt to overcome the disadvantages of the deteriorating ratio of dentists to population (1:2,963 in 1958). One example of this appears in Table 11.

For 57% of Canadian dentists the average appointment length is 30 minutes. Another 30% average 45 minutes per appointment.

TABLE 11
Independent Dentists
Mean Net Income—Length of Appointment

Average Appointment	Percent of Dentists	Mean Net Income
Blank	1.5	\$ 9,605
30 Minutes	57.1	11,405
45 Minutes	30.7	9,298
1 Hour	9.8	8,285
Over 1 Hour	.9	14,250
	100.0	\$10,453
CDA survey of dental practice 1958.		

This signifies considerable change from 1953 when 53% of dentists averaged 45 minutes per appointment and 34% averaged one hour appointments.

Relating appointment length to net income, Table 11 shows that, except for a very small percentage with appointments averaging more than one hour, the dentists averaging half hour appointments earned the highest net incomes, averaging \$11,405. In 1953 the 45 minute appointment group reported the highest net incomes.

Table 12 shows that the majority of Canadian dentists practise their profession eleven months or more per year. The almost 21% who reported working 48 weeks in 1958 averaged net incomes of \$11,598. Highest incomes were reported by a small percentage who worked 43 weeks. The percentages shown in this table have changed very little since 1953.

TABLE 12
Independent Dentists
1958 Mean Net Income—Number of Weeks Worked

Number of Weeks Worked	Percent of Respondents	Mean Net Income
Blank	2.5	\$ 8,591
52	2.8	10,068
51	2.4	9,206
50	12.9	9,932
49	13.9	11,104
48	20.8	11,598
47	10.9	11,551
46	9.6	11,339
45	5.5	10,373
44	4.4	10,633
43	1.6	12,383
42	2.9	10,114
41	1.1	10,282
Less than 41	8.7	5,778
	100.0	\$10,453
CDA survey of dental practice 1958.		

Table 13 shows that Canadian dentists enjoyed a relatively healthy year during 1958. Only 2.8% suffered illness or disability causing more than one month's loss of time. This is an improvement over the corresponding figure of 3.6% in 1953.

TABLE 13
Independent Dentists
Number of Days Absent 1958—Illness or Disability

Number of Days Absent	Percent of Dentists	Cumulative Percent
0	2.1	2.1
1	4.9	7.0
2	7.4	14.4
3	6.5	20.9
4	4.3	25.2
5	4.2	29.4
6	3.0	32.4
7	4.1	36.5
8-12	5.6	42.1
13-17	3.0	45.1
18-22	1.7	46.8
23-27	.8	47.6
28-32	1.4	49.0
33-44	.9	49.9
45-54	.5	50.4
55-64	.4	50.8
65-74	.3	51.1
75-84	.2	51.3
85-94	.1	51.4
95-104	.1	51.5
105 or more	.3	51.8
Blank	48.2	100.0
CDA survey of dental practice 1958.		

Net income in relation to age and office hours, shown in Table 14, was not ascertained from the 1953 survey; so no comparison can be made here. The highest net income group, the 30-34 age group, also reported the highest number of office hours per week, 42.7. The only significant variance in the relationship of net income to hours worked is the 25-29 age group. This age group ranked second highest in number of hours worked but seventh in order of net incomes. Of major significance is the sharp drop in income from age 50 onward even though the reduction in hours worked is gradual.

TABLE 14
Independent Dentists
Mean Net Income—Age and Office Hours

Age	Mean Hours Per Week	Mean Net Income
Blank	31.7	\$12,381
Under 25	38.0	2,639
25-29	42.1	8,506
30-34	42.7	12,167
35-39	41.8	12,098
40-44	41.5	11,666
45-49	39.1	12,044
50-54	39.6	10,701
55-59	38.7	9,888
60-64	36.3	7,526
65-69	34.9	6,515
70-74	30.4	4,912
75-	28.1	1,406

CDA survey of dental practice 1958.

Table 15 shows that the average general practitioner spends 40.5 (41.5) hours per week in his office, 34.2 (34.2) hours at the chair. Specialists average 38.2 (39.2) hours in their offices each week.

TABLE 15
Independent Dentists
Mean Number of Office Hours Per Week—Type of Activity

Type of Activity	Blanks	General Practitioner	Specialists	All Types of Practice
Chairside	30.0	34.2	30.8	33.8
Lab.	8.8	3.1	3.6	3.3
Other hrs. in office	14.3	3.2	3.8	3.4
Total	53.1	40.5	38.2	40.5

CDA survey of dental practice 1958.

IV-INCOME RELATED TO AUXILIARY PERSONNEL AND TYPE OF PRACTICE

As in 1953, again in 1958 orthodontists ranked highest in income and in net income as a percentage of gross income. Average gross income of the specialists listed in Table 16 is 28% (16%) higher than for general practitioners. Average net income is 38% (27%) higher than the general practitioners', but average expenses of specialists are only 9% (7%) higher than those of general practitioners.

TABLE 16
1958 Mean Income of Specialists

	Mean Gross Income	Mean Net Income	Net as Percent of Gross
Blank	\$16,728	\$ 8,440	50.5
General Practitioners	19,334	10,114	52.3
Specialists:			
Oral Surgeon	24,475	14,683	60.0
Orthodontist	27,516	17,190	67.4
Paedodontist	24,976	13,958	55.9
Periodontist	21,516	11,725	54.5
Other	26,830	12,229	45.6
Blank	23,730	14,153	59.6

CDA survey of dental practice 1958.

When the groups in Table 17 are ranked from highest to lowest, the relative positions remain much the same as in 1953. The one exception is the group employing 2.5-3.4 people. This group shows the greatest increase over 1953 in net income as a percentage of gross, and in actual net income. In 1953 the "3.5 and over" group ranked highest in net income by a margin of \$3,000. In 1958 this group and the "2.5-3.4" group had almost equal net incomes. The difference in gross incomes of these two groups also was much less than in 1953. This could be an indication of improved administration in dental offices.

Table 18 shows that 87% of independent dentists employ some type of auxiliary personnel. The majority, 48%, employ one dental assistant. In 1953 almost 81% of dentists employed auxiliary help and just over 48%

TABLE 17
Independent Dentists
1958 Mean Income—Number of Employees

Number of Employees	Mean Gross Income	Mean Net Income	Net as Percent of Gross
0	\$10,758	\$ 6,096	56.7
.1- .4	15,591	9,560	61.3
.5-1.4	19,652	10,302	52.4
1.5-2.4	25,313	13,236	52.3
2.5-3.4	26,668	14,056	52.7
3.5 & more	27,028	14,054	52.0
CDA survey of dental practice 1958.			

ents who failed to name the provinces in which they practise. The heading "other" refers to any combination of types of auxiliary not listed and also includes hygienists because their number is small.

One interesting conclusion drawn from the figures in Table 19 is that the only groups with average net incomes of less than the national average of \$10,453 are those dentists using one dental chair and those with two chairs but no employees. In 1953 also, lowest incomes were reported by these groups. The highest 1958 net incomes were for those dentists with three chairs and two of the following: assistants, secretaries, receptionists. The fact has been proved by both surveys, for 1953 and 1958, that the lone operator and the operator with only one chair have the lowest incomes despite their low expense ratios. It would appear from these figures that, given sufficient demand for dental services, dentists can increase net incomes by the addition of auxiliary assistance and dental chairs.

TABLE 18
Independent Dentists
Percentage Employing Number and Type of Personnel

	Blank	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.	Canada
No Employees	15.4	2.9	5.1	8.7	3.8	11.6	27.6	21.6	24.6	45.5	4.2	12.9
One Assistant	61.5	60.4	62.5	50.5	36.8	51.2	30.3	35.1	32.3	36.3	37.5	48.0
One Secretary or Receptionist	7.7	12.2	7.7	16.5	22.6	14.7	19.4	27.0	23.1	18.2	41.7	15.8
One Assistant and one Secretary or Receptionist	..	7.9	4.7	6.8	10.4	5.7	4.7	5.4	3.1	..	..	5.8
Two Assistants	..	4.0	3.6	3.9	5.7	1.6	1.0	2.8	..	..	..	2.2
One Part Time Assistant	..	7.2	8.2	9.7	14.2	8.5	7.7	5.4	9.2	..	4.2	8.3
One Technician and One Assistant	15.4	3.6	3.6	..	.9	3.6	5.0	2.7	3.1	..	8.3	3.6
Other	..	1.8	4.6	3.9	5.6	3.1	4.3	..	4.6	..	4.1	3.4
Total	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0	100.0
CDA survey of dental practice 1958.												

employed one dental assistant. The 1958 figures indicate an increase in the number of offices with more than one employee. In this table, "blank" represents those respond-

TABLE 19
Independent Dentists
1958 Mean Income—Number of Chairs and Employees

	Mean Gross Income	Mean Expense	Mean Net Income	Net as Percent of Gross
1 Chair, No Employees	\$10,165	\$ 3,929	\$ 5,917	58.2
1 Chair, 1 Secretary or Receptionist	16,978	7,276	9,586	56.5
1 Chair, 1 Assistant	18,388	7,944	9,933	54.0
2 Chairs, No Employees	13,909	5,519	7,186	51.7
2 Chairs, 1 Secretary or Receptionist	22,728	10,085	11,782	51.8
2 Chairs, 1 Assistant	23,163	9,938	11,910	51.4
2 Chairs, 1 Assistant and 1 Secretary or Receptionist	26,717	12,075	13,514	50.6
2 Chairs, 2 Assistants	27,535	12,230	15,231	55.3
2 Chairs, 1 Technician and one or two of following: Assistants, Secretaries or Receptionists	26,621	11,295	14,996	56.3
2 Chairs, 1 Hygienist and 1 or 2 of the following: Assistants, Secretaries or Receptionists	29,086	13,670	15,415	53.0
3 Chairs, 1 Assistant	28,485	12,622	15,003	52.7
3 Chairs, 2 of the following: Assistants, Secretaries or Receptionists	31,492	14,323	15,768	50.1
3 Chairs, 1 Hygienist and 1 or 2 of following: Assistants, Secretaries or Receptionists	27,223	13,262	13,960	51.3
4 Chairs, 1 or more Employees other than Dentists	40,876	28,975	11,907	29.1
4 Chairs, 1 Dentist and 1 or more other Employees				
CDA survey of dental practice 1958.				

"Let there be education in medicine commensurate to instruction; let the young physician be sound in the fundamentals, so that he may see his problem as it is, and his duty to himself, his patients and the science of medicine." Charles H. Mayo, 1865-1939

EDITORIAL

Something for Nothing?

A rapid change in our health services is not something far off but is something that is happening now. In Canada nine provinces have hospital insurance plans in operation. Approximately 71% of Canadians now have such coverage and in most cases on a compulsory basis. In the United States in three out of five families every member of the family is protected by health insurance. There is no doubt that other health services will be altered similarly.

The dental profession has made remarkable advances in the last few years but this progress is most impressive within the profession itself. Dentistry in the eyes of the public remains an undesirable necessity of life that should be provided at a minimum cost or better still at no apparent cost at all.

This is a transition age in which most people consider that their way of life is improving if they are able to receive a little more of life's necessities and luxuries either for nothing or at least for a reduced amount of money. This to a few of the old school is a nearly intolerable situation but for the multitude life is a very short and uncertain thing to be filled as much as possible with pleasures and to be freed where possible of encumbering factors such as hard work, competition, thrift and expense. This new

socio-economic attitude is abetted and encouraged by the knowledge that the government will probably offer a hand to pull us through if things get too tough.

Dentists belong to the disappearing minority group who must still work hard for everything they possess and while others devote their energies to eliminating and reducing life's burdens, dentists face even longer hours of work in order to hold the demand for their services at bay. By the very nature of our work we cannot condone the something for nothing philosophy that is growing so rapidly. Yet we must not underestimate the power of the capricious individual and the certainty that his whims and desires will be directly reflected by the government. Health professions knowing the failings of government sponsored health services are probably helpless to stem the tide of public demand and yet they must endeavour to direct government participation in the public's best interest. The public may eventually stampede itself into a situation where the government seems to be providing more and more for very little obvious expense and where the government has assumed the directive which we inadvertently relinquished. This can and will happen at least to some degree in the future. To what degree the control of our services is relinquished depends

upon our attitude and understanding at this moment.

The Canadian Dental Association and most other large bodies in organized Canadian dentistry, apparently have failed dismally to convey to their members the urgency of this situation. Why they have failed is difficult to know for many sincere efforts have been made to foretell the future clearly and dramatically. These efforts are classed as failures because each opportunity or plan that has been offered whereby Canadian dentists could collectively demonstrate their capability to serve the public needs with maximum efficiency, has by dentists either been misused, misunderstood, viewed as suspect, or shown only the most casual interest.

There are weaknesses in some of the plans offered so far, but weak or strong they represent a conscientious effort on the part of organized dentistry in Canada to prove that it can serve the public best under its own direction. We must start somewhere to collect evidence to support this premise for when the time arrives and we are asked to show that we are capable of providing dental services in Canada under our own direction, emotional outbursts and indignant voices will not serve as adequate proof. But if we can show that through the voluntary establishment and participation in plans such as Canadian Dental Service Plans Incorporated, Canadian dentists are truly meeting public need as efficiently and in-

clusively as possible, then and only then can we hope to retain our cherished professional autonomy.

The bleak alternative could well be a completely government controlled system wherein individual participation is solicited by tempting fee schedules and other equally spurious devices until there is nearly complete enrolment of dental personnel. Then when the giant machine controlled by non dental personnel is set in motion, fee schedules, dentist-patient relationship and personnel incentive might conceivably be whisked away and replaced by mass production dentistry, filling out forms and a general reduction in professional standards.

Dentistry must demonstrate its ability to extend its services as widely as possible and at the same time prove that the more actual control of any health plan that is left to the responsibility of the profession the better the service will be to the public. This can only be accomplished if we establish and direct organizations capable of administering dental service plans on a group basis. In the best interests of those whom we are dedicated to serve we must strive to protect the character and stature of our profession. Willing individual dentist participation in the health plans offered by our profession today will determine in what form dentistry will be practised tomorrow.

Homage to Wisdom — Thinking is the bravest of all activities. People will do anything to avoid thought, even go to the source of it to snatch a few epigrams so that they shouldn't have to think. Quotation is the homage paid by the ignorant to wisdom.

George Bernard Shaw in
"Days with Bernard Shaw," by Stephen Winsten

THE ASSOCIATION

American College Elects Canadians

At a meeting held during the recent American Dental Association centennial celebrations in New York, Dr. Don W. Gullet, Secretary of the Canadian Dental Association became President of the American College of Dentists.

Elected Fellows of the American College of Dentists were Dr. George M. Dewis, Halifax, immediate past president of the C.D.A., Dr. James D. McLean, Halifax, dean of the dental faculty at Dalhousie University, Dr. L. E. MacLachlan of Ottawa, Dr. Wesley J. Langmaid, Oshawa, Dr. C. A. E. McCabe, Montreal, Dr. Wesley J. Dunn, Toronto, Registrar-Secretary of the Royal College of Dental Surgeons of Ontario and former editor of the C.D.A. Journal, Dr. Frank Martin, of Toronto, and Dr. H. T. Oliver of Montreal.

B.D.A. President Dies

The recently elected president of the British Dental Association, G. Lotan Vennings died on July 14th. He had been in office for only seven weeks.

Mr. W. R. Tattersall, immediate past president of the B.D.A. has accepted the invitation to resume the office of president until the next annual meeting at Edinburgh in July, 1960. This follows the precedent of 1952.

Unions Issue Fluoridation Pamphlet

A fluoridation pamphlet is published by the American Federation of Labour and the Congress of Industrial Organizations. It is thought that effective use can be made of this leaflet, particularly in communities where the fluoridation issue is to be voted upon.

Copies of the leaflet may be obtained at \$2.50 per hundred from

AFL-CIO Community Services Activities
9 East 40th Street, New York 16, N.Y.

C.D.A. 1959 Directory

Copies of the 1959 Directory of the Canadian Dental Association are now available at headquarters at \$1.00 per copy.

A.D.A. Centennial Draws Record Crowds

Previous attendance records were shattered at the 100th anniversary meeting of the American Dental Association at New York, September 14-18. The overall registration was 35,200, including 19,412 dentists. This constitutes the largest meeting of dentists ever held. Over 2,400 registrants were from foreign countries.

The 47th annual meeting of the International Dental Federation was held in conjunction with the A.D.A. celebration with representatives from about 35 countries in attendance.

Several years of meticulous planning went into making this meeting so successful. The scientific sessions were held in New York's new Coliseum. The business sessions of the American Dental Association took place in the Waldorf-Astoria Hotel. Those of the International Dental Federation were held in the Manhattan Hotel. Accommodating a meeting of this size heavily taxed the extensive facilities of New York City.

The celebration constitutes a land mark in the history of the dental profession. The benefits to the profession, not only for those in attendance but for the whole profession, will be lasting ones.

The Canadian Dental Association was represented officially at these meetings by the president, Dr. William G. McIntosh, and the secretary, Dr. Don W. Gullett. At an international recognition ceremony, Dr. McIntosh, on behalf of the C.D.A., presented to the American Dental Association a beautiful wood sculpture by a leading French-Canadian artist.

One-third Canadian Population Under 15

One-third of Canada's population is under 15 years of age. The Dominion Bureau of Statistics reports that 5,821,000 of Canada's 17,442,000 (estimated June 1, 1959) people are under 15.

While the total population increased by 8.5% from the 1956 census, the number of children under 15 increased by 11.4%. Provincial rates of increase for this group ranged from a high of 16.9% in British Columbia to a low of 4.2% in Prince Edward Island.

These facts are very significant when related to programs of dental care for children.

Service Clubs President is Dentist

Dr. Arthur Schwartz, Winnipeg dentist, recently assumed office as National President of the Association of Kinsmen Clubs. A young men's service organization, the Association has about 12,000 members in over 300 clubs across Canada.

Dr. Schwartz also serves on the Dental Public Health Committee of the Canadian Dental Association.

BOOK REVIEWS

Textbook of Biochemistry for Students of Dentistry. Edited by Joseph C. Muhler, 513 pp., \$9.00.

Laboratory Manual of Biological Chemistry for Students of Dentistry. W. C. Hess and J. C. Muhler. 118 pp., \$2.25; The C. V. Mosby Co., St. Louis, 1959.

Most textbooks of biochemistry have been written for medical students or for students majoring in biochemistry. Although these books go beyond the scope of the average course in dental biochemistry, they frequently fall short in certain areas of special interest to the dental student. Dr. Joseph Muhler and his associates have now attempted to provide a textbook which is designed particularly for the needs of dental students.

Nine individuals, including the editor, have contributed chapters to the book, and all are distinguished specialists in their particular fields. One might draw attention particularly to the chapters by Pigman on carbohydrates, by Leicester on specialized tissues, and by Campaigne on drugs and chemotherapy. Unfortunately, however, as in many works to which several authors contribute, there is a decided unevenness of treatment. A few

sections give the impression of hastily compiled lists of facts, with numerous minor inaccuracies and typographical errors. For example, on page 71 the formulae for the amino acids ornithine and citrulline are both given incorrectly.

The balance of emphasis in the textbook seems appropriate in general. There are special sections devoted to the chemistry of bones, teeth and saliva and there are numerous references throughout to subjects of practical importance to dental students. Dr. Muhler himself has provided an excellent chapter on fluoride metabolism, a field in which he is an acknowledged leader. The section on nutrition seems somewhat over-extended (137 pages) inasmuch as the writer does not emphasize particularly the biochemical aspects of nutrition. Intermediary metabolism, which might be considered the essence of modern biochemistry, is presented in much more concise form than in the standard textbooks. This section creates an impression, perhaps unavoidably, of a static body of knowledge rather than a rapidly expanding field of research. This section, and in fact the book as a whole, lacks an over-all synthesizing view which might give better perspective to the student approaching the subject for the first time.

There is no doubt that Dr. Muhler and his associates have made a valuable contribution to the teaching of biochemistry in dental schools. The book will be particularly useful as a general reference work for the special topics in biochemistry related to the science of dentistry. It seems unlikely that it will completely displace the better established works at present, but with seasoning in further editions it may eventually satisfy all tastes.

Dr. Muhler and Dr. W. C. Hess have written a laboratory manual of biochemistry intended to accompany the textbook. Experiments for thirty laboratory periods are presented, covering most of the topics of an introductory course. Approximately ten of the periods are devoted to subjects of special interest to dental students. The experiments are clearly and fully described and adequate background information is provided in the text. The manual will be very helpful to biochemistry departments which are initiating a program for dental students, or revising an established program.

G. E. Connell

Partial Dentures—Prepared by: M. G. Swenson and L. G. Terkla. Published by: The C. V. Mosby Co. Pages: 389—403 Illustrations. Price: \$10.50.

The one piece cast clasp type removable partial denture is probably the most broadly used in the replacement of the partially lost dentition. This, in spite of the fact that many indicate a much superior replacement—the fixed partial prosthesis. Drs. Swenson and Terkla are careful to point this out in their revised text.

In this book one finds a most lucid and organized text designed to be read by dentist, dental student and dental technician alike. The authors broadly divide the text into two parts:—

Part I—Related Factors and Fundamentals of Partial Denture Construction.

Part II—Construction of Partial Dentures.

Special comment should be made for the clear drawings and the fine photography employed in bringing forth the salient details.

Patient education as to the limitations of this type of prosthesis, emphasis on the preparation of the teeth for occlusal rests, indirect retainers and the re-contouring of teeth to enhance their retentive qualities, receive careful consideration. This reviewer, however, felt that the rather radical procedures employed in the preparation of the cuspsids for direct and indirect retainers left much to be desired for an aesthetic commitment, although admirably solving the mechanical

requirements. The comparison of the chrome cobalt alloys and the gold castings reaffirms the fact that each has limitations as has the indiscrete use of orthodontic pliers to modify retention.

The assessments of the three existing schools of thought with reference to the distribution of stress, served to clarify this point and the discussion of the equilibration of occlusion emphasizes the vital nature of occlusion in the complete field of dentistry.

As one whose philosophy leans more heavily on the fixed prosthesis, the feeling persisted with reference to the broad classification of partial prostheses that many classes could be deleted in favour of fixed prosthetic appliances. Although many factors are involved in the treatment of choice, it is a personal feeling that ideally we must set our sights upon that procedure which is mechanically, biologically and aesthetically most acceptable.

A new chapter on the partial replacement for the cleft palate patient has been added to the text. Readers can be assured of a most enjoyable review in their careful perusal of this fine book.

J. D. Purves

Textbook of Oral Surgery. Prepared by: Gustav O. Kruger. Published by: The C. V. Mosby Co. Pages: 573. Price: \$12.75.

Dr. Kruger has edited a wealth of material by an outstanding group of contributors and presented it in an interesting and orderly fashion.

The "Textbook of Oral Surgery" is written primarily for the senior dental student. However, this well illustrated volume will be interesting and informative to anyone associated with the field of oral surgery.

The text begins appropriately by dealing with basic principles of surgery followed by an interesting outline of the fundamentals of surgical technique.

The chapters dealing with bacteriology and infection are designed to clarify and organize the reader's concept of bacteriology and its relationship to oral surgery.

Hemorrhage, shock and its treatment are well handled and more particularly the complex study of electrolyte balance is presented in an absorbing manner.

Chapters dealing with abnormalities of the mouth, chronic periapical infections and cysts of the bone and soft structures cover a wide range of subjects from simple alveolectomy to removal of broken needles. These basic subjects fit well into the pattern of a lecture series and still maintain a flowing continuity.

Acute infections of the oral cavity are situations encountered regularly by the gen-

eral practitioner and the oral surgeon. Dr. S. M. Moose in this section has made an interesting attempt to condense this subject into approximately thirty pages. His handling of a very difficult subject, that of the fascial planes of the head and neck, is particularly well done.

A comprehensive study of disease of the maxillary sinus of dental origin and wounds and injuries to the soft tissue are interesting and informative additions to a well rounded surgical text. These subjects preface one of the most interesting phases of oral surgery, that of traumatic injuries and fractures.

Dr. Kruger's own contribution in the form of a chapter on fractures of the jaws is expertly handled. He has made a genuine attempt to cover a controversial subject with the air of a diplomat. Dr. Kruger makes it clear that each fracture must be treated as a separate entity and that the treatment of fractures cannot be completely categorized.

The management and treatment of temporomandibular disturbances, cleft lip and cleft palate abnormalities, acquired defects of the bone and soft tissues and deformities of the jaws follow in that sequence. In spite of their complexity these subjects are dealt with in a fashion which is relatively easy to digest.

Surgical aspects of oral tumours, complication of the salivary glands and neurological aspects of dental pain conclude this well written text.

In the opinion of this reviewer the usefulness of this text book is not impaired by the fact that no section has been included which deals with routine or uncomplicated extractions. The editor points out in his preface that adequate text books on exodontia are already available.

The "Textbook of Oral Surgery" should be a valuable addition to our library of dental books.

James P. Coupland
Harold F. Biewald

Outline of Histology

Prepared by: M. M. Hoskins and G. Bevelander. Published by: The C. V. Mosby Co., St. Louis, 1959. Pages: 323. Price \$4.75

The fourth edition of the Outline of Histology continues to be an excellent book for reference or review of histology. It does not displace the use of more complete text books in undergraduate teaching, but it does form a valuable publication for review or for reference.

As the name implies, this is a text of both general and oral histology in which information pertaining to the microscopic structure of all of the tissues and organs of the body is listed in point form in a clear and orderly manner. The inclusion of the section on oral embryology and histology makes the book of particular value to the dental student.

The text is quite complete, well illustrated and well printed. The illustrations which are used extensively are reproductions of pencil sketches. In addition there are two colour plates illustrating the structure of the cells of blood.

By cutting printing costs without sacrificing quality the authors and publishers have produced a useful text within the financial reach of any student.

K. J. Paynter

THE LIBRARY

ADDITIONS

CLARK, H. B.: Practical oral surgery. 2nd ed. Philadelphia, Lea & Febiger, 1959. 469 p. illus. \$9.50.

DICKSON, G. C.: Orthodontics in general dental practice. London, Pitman Medical Publishing Co. Ltd., 1959. 337 p. illus. \$13.50.

HEATH, JOHN: Serial extraction and mechanically guided development. Melbourne, Verona Press, 1958. 28 p. illus.

MOORREES, C. F. A.: The dentition of the growing child; a longitudinal study of

dental development between 3 and 18 years of age. Cambridge, Mass., Harvard University Press, 1959. 248 p. illus. \$6.05.

MORRISON, G. A.: In the dentist's office. a guide for auxiliary dental personnel, hygienist, assistant and secretary. 2nd ed. Philadelphia, Lippincott, 1959. 280 p. illus. \$7.50.

SARGENTI, A. G. & RICHTER, S. L.: Rationalized root canal treatment. New York, A.G.S.A. Scientific Publications, 1959. 207 p. illus. \$10.25.

THE CORPS

R.C.D.C. Militia—General Efficiency Competition—1959

Army Headquarters has announced the results of the 1959 (Militia) General Efficiency Competition as follows:

The Moore Trophy, which is given to the Militia Unit considered to be most efficient during the training year, was won for the third consecutive year by No. 50 Dental Unit, Halifax, whose Commanding Officer is Lt.-Col. G. C. McLeod. No. 50 Dental Unit is to be congratulated for a very enviable record. Not only have they won this trophy for three consecutive years but have held it four times out of the past six years and have been runner-up once.

The Trelford Trophy which is awarded to the runner-up in the competition was won by No. 54 Dental Unit, Ottawa, commanded by Lt.-Col. C. E. Woods.

No. 51 Dental Unit in Saint John, N.B., Commanding Officer, Lt.-Col. G. L. Ramsay, was awarded the Saskatchewan Dental Association Memorial Trophy. This Trophy is given to the Militia Unit which made the most progress in general efficiency during the training year.

Brigadier Baird and Colonel Shillington Visit U.S.A.

Brigadier K. M. Baird, Director General of Dental Services and Colonel G. B. Shillington, the Deputy Director General, attended the International Conference of Military Dentistry at the United States Military Academy, West Point, New York, on September 11th, following which they attended the 100th annual session of the American Dental Association in New York City.

While in New York Colonel Shillington also attended the thirty-first Annual Meeting of the American Denture Society.

Dental Association Meetings

Colonel H. L. Harris from the Directorate of Dental Services at Army Headquarters in Ottawa represented the Director General of Dental Services at the Eastern Ontario Dental Association Convention held in Ottawa 13th to 15th September.

Major A. G. Andrews of R.C.A.F. Station, Rockcliffe, Ont., presented a paper on "Current Drugs in Dentistry" at the same convention.

Senior British Dental Officers Visit R.C.D.C.

During September the R.C.D.C. was pleased to welcome two distinguished dental officers from the United Kingdom who were in North America to attend the International Conference on Military Dentistry held at West Point, New York.

Major-General H. Quinlan, Q.H.D.S., B.D.S., Deputy Director of British Army Dental Services, visited the Directorate of Dental Services in Ottawa on September 8 and accompanied by Brigadier K. M. Baird inspected R.C.D.C. facilities at The R.C.D.C. School, Camp Borden and R.C.A.F. Station, Trenton, Ontario, after travelling to New York for the conference.

Surgeon Rear Admiral (D) C. J. Finnigan, L.D.S., Deputy Director General for Dental Services (Admiralty) arrived in Ottawa on September 23 following the same conference and after spending a day at the Directorate of Dental Services journeyed to Camp Borden to visit the R.C.D.C. School.



Major-General H. Quinlan (seated), Director of the British Army Dental Services is shown during his visit to Canada with Brigadier K. M. Baird, Director General of Dental Services for the Canadian Forces.

Postings in Canada

The following postings have taken place recently:

Capt. W. R. Black—To R.C.A.F. Station, North Bay, Ontario, from Air Force Headquarters, Ottawa, Ontario, effective 15th September, 1959.

Capt. R. D. Bunt—To No. 25 Central Ordnance Depot, Longue Pointe, P.Q., from R.C.A.F. Station, Lachine, P.Q., effective 14th September, 1959.

Capt. S. M. Claman—To Fort Churchill, Manitoba, from Winnipeg, Manitoba, effective 19th September, 1959.

Capt. C. J. Edwardh—To R.C.A.F. Station, Penhold, Alberta, from R.C.A.F. Station, Cold Lake, Alberta, effective 1st August, 1959.

Capt. J. I. Gordon—To H.M.C.S. Stadacona, Halifax, N.S., from Headquarters Newfoundland Area, St. John's, Newfoundland, effective 2nd September, 1959.

Capt. D. J. MacPhee—To R.C.A.F. Station,

Downsview, Ont., from R.C.A.F. Station, North Bay, Ontario, effective 3rd September, 1959.

Major Carmichael Posted to Middle East

Major J. D. Carmichael of Vancouver, B.C., has been posted to the Dental Detachment Canadian Base Units Middle East from H.M.C.S. Shearwater, Dartmouth, N.S.

Courses

Major E. J. C. Small of Halifax, N.S., attended a short course in Crown and Bridge Prosthesis at the University of Michigan 19th to 30th October.

Releases

The following officers have been released from the Corps:

Major R. G. Darling of Cache Bay, Ont.
Captain R. G. Perry of Gardston, Alberta.

THE PROVINCES

ALBERTA

Calgary and District Dental Society

The first regular meeting of the Calgary and District Dental Society for the 1959-60 year was held at the Hotel Palliser on Monday, October 5th.

The newly elected executive took office. The officers of the Society for the coming year are as follows: President, Dr. J. C. Waddell; Vice-president, Dr. J. A. Gibson; Secretary, Dr. G. W. Street; and Treasurer, Dr. E. F. Allison.

Dr. John Gehrig, Associate Professor of the Department of Oral Surgery, University of Washington, presented an afternoon and evening address. He dealt with numerous oral surgery problems, the pre and post-operative care of surgical patients, the treatment of infections, and discussed analgesics and antibiotics.

Six newcomers to Calgary were individu-

ally introduced and welcomed to the Society. The new men are Dr. G. Schwellnuss, Dr. D. P. Lee, Dr. B. Boyko, Dr. M. J. Albinati, Dr. H. Freeze, and Dr. D. J. Cherry.

Dr. Gordon C. Swann, a board member of the Alberta Dental Association, outlined an excellent Public Health Program which has been submitted to the Province's Minister of Health by the Alberta Dental Association.
G.W.S.

Northeastern Alberta and District Dental Society

A meeting was held at Dr. C. Marriott's cottage at Moose Lake, near Bonnyville, Alberta, on Saturday, August 8th, 1959, at which time the Northeastern Alberta and District Dental Society was formed.

There were eight dentists from the area in attendance. Dr. A. Lane, from Edmonton,

kindly attended the meeting to assist in the organization of the Society.

The following officers were elected: President, Dr. L. G. Mandin, St. Paul; Sec'y.-treas., Dr. D. D. Didow, Elk Point; Social Convenor, Dr. R. A. Payment, Vermilion; Directors, Dr. O. S. Hauck, Wainwright, and Dr. T. Demco, Vegreville.

P.F.H.

M. Krasnoff and Dr. D. McDonald with 80 each. Third low gross went to Dr. S. Moscovich and Dr. S. Corman who carded 81. A new prize, the Jerry Splatt trophy for low net was awarded to Dr. J. Friedman with 66. Second low net was won by Dr. G. Creasy and Dr. H. Tungate, each with 67.

D.H.M.

Registration of Students

Registration of the students in the Faculty of Dentistry, University of Alberta, was completed during the second week of September for the year 1959-60. The number in each year is as follows:

1st year	36
2nd year	31
3rd year	25
4th year	27
	—
Total	119

The new addition to the Medical Building which will accommodate the Dental Faculty is progressing favorably. The students and members of the faculty will be very happy when it is completed and the "moving-in" can begin. However, since only the main walls are now completed, the "moving-in" will not occur for a considerable time.

R.C.S.

Kootenay Dental Society

The Kootenay Dental Society held its fall meeting on Saturday, October 3rd in Nelson. Guests were Dr. C. R. Hallman, president of the Council, and Dr. Ross Upton, executive secretary.

The guest clinician, Dr. M. R. Chipman, orthodontist of Spokane, Washington, took for his subject "The Inter-relationship between Medical and Dental Problems". This was an all-day meeting and the attendance was gratifying.

The community dental clinics are active again in Rossland, Trail and Castlegar.

MANITOBA

Faculty of Dentistry, University of Manitoba

The Faculty of Dentistry of the University of Manitoba recently announced that it has twenty four students enrolled in its first year class. The new faculty can actually accommodate thirty students per class, and in June 1959 it accepted thirty eight applicants recognizing that there would be several of these who would not accept their allotted places in the class. Twenty members of this class are from Manitoba, or took their preprofessional education there, three are from Saskatchewan and one is from British Columbia.

There are now eighteen members in the second year class of the faculty.

It is also of interest to note that the necessary lecture room and laboratories in the new dental college building were finished in time for the opening of classes on September 8th, but it will be several weeks before the entire building is ready for occupancy. The formal opening of the building will probably not be held until sometime in 1960.

BRITISH COLUMBIA

Golf Tournament.

A fine day was enjoyed by 80 golfers on September 17 when the fall tournament of the Vancouver and District Dental Society was held at the Seymour Golf and Country Club.

The event was arranged by Dr. Sam Moscovich and when the playing was over Dr. George Creasy acted as chairman after dinner at the prize-awarding ceremony. Representatives of the dental laboratory association and the dental supply houses were welcomed.

Low gross was won by Dr. Matt Waterman with 79, who carried off the Dick Butler Trophy. The Dental Laboratory Association trophy for second low gross was tied by Dr.

\$15,000 Gift from W. K. Kellogg Foundation

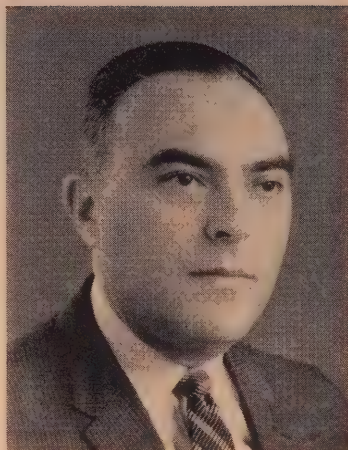
The University of Manitoba is pleased to announce its acceptance of a \$15,000 gift from the W. K. Kellogg Foundation to establish a student loan fund in its new Faculty of Dentistry. The Kellogg Foundation has thus once again shown its continued interest in dental education in Canada. In offering the grant, Dr. Philip E. Blackerby, Jr., the Associate Director of the Foundation, mentioned that every dental school in the United States and Canada now has a similar type of loan fund established by the Kellogg Foundation.

In recent years, the Foundation has extended its dental activities more and more into Central and South America, but at the same time, in Canada, it has continued to support such projects as conferences on dental teaching and on dental educational needs, bursaries for graduate study for future full time teachers of dentistry, exploratory surveys in dental educational fields, along with these student loan funds.

It should also be noted that the establishment of this loan fund comes at a critical time when recruitment of good dental students is rather difficult, with the financial strain of the dental course being given as one reason for the scarcity of suitable applicants.

The President of the University of Manitoba, Dr. H. H. Saunderson, as well as the entire new Faculty of Dentistry, have expressed their appreciation for this timely and most commendable gesture by the W. K. Kellogg Foundation. The degree to which it is already being utilized by the students in Winnipeg illustrates the need that this grant has attempted to fill in a most generous fashion.

J.P.B.



Dr. Z. Kasloff, Associate Professor of Dentistry.

Dr. Kasloff is a native of Winnipeg and a 1939 graduate of the University of Minnesota. Following graduation from Minnesota he attended Dalhousie University where he was also awarded his dental degree in 1940. He then enlisted in the Royal Canadian Dental Corps, and following discharge in 1945 he conducted a general practice in Winnipeg until the summer of 1958 when he went to the School of Dentistry, Indiana University as a graduate student in Dental Materials. Dr. Kasloff is presently working toward a Master of Science degree from that Institution.

At the University of Manitoba, Dr. Kasloff will be in charge of the teaching of Fixed Partial Denture Prosthesis and Dental Materials. His research interests at present are in the fields of casting technique evaluation, and the possible cracking of teeth under high speed rotary instrumentation.

Dr. Marshall is a native of Vancouver where he took his early education. Following military service in World War II, he was graduated from the University of Oregon Dental School in 1949. Dr. Marshall then practised in Vancouver for several years before proceeding to the University of Illinois, where he was awarded his Master of Science degree in Oral Histology and Endodontics in June of 1959.

Recent Appointments to New Faculty

The President of the University of Manitoba, Dr. H. H. Saunderson, recently announced three appointments to the full time academic staff of the new Faculty of Dentistry of the University as follows.

1. Dr. Z. Kasloff, D.D.S., Associate Professor of Dentistry, (Fixed Partial Denture Prosthesis and Dental Materials).
2. Dr. F. James Marshall, D.M.D., M.S., Associate Professor of Dentistry, (Endodontics and Oral Histology).
3. Dr. J. Richard Trott, B.D.S., Associate Professor of Dentistry, (Periodontology).



Dr. F. James Marshall, Associate Professor of Dentistry.

Dr. Marshall's basic research to date has dealt with radioactive isotope tracers in the field of dentistry generally, and more particularly in the field of tooth permeability.



Dr. J. R. Trott, Associate Professor of Dentistry.

Dr. Trott is an Australian and after attending elementary and high schools in Hong Kong, England and Australia, he enlisted in the Royal Australian Naval Reserve and saw action in the South Pacific. Upon discharge from the armed forces, he entered dental school, and he received his B.D.S. from the University of Adelaide in 1950. Following a year's practice in Australia he went to England where he spent eight years in further study, and in the teaching of periodontology in several institutions there, including the London Hospital Dental School, the Royal Dental Hospital and the Eastman Dental Hospital. It was from the latter that Dr. Trott came to Manitoba in April 1959. He has published twelve papers in the field of periodontology, and is also the co-author (with G. C. Blake) of a textbook on periodontology which is presently in press.

In addition, President Saunderson announced the appointment of three part-time demonstrators as follows: Dr. Frank Jones, (Operative Dentistry), Dr. John M. Grahame and Dr. Lawrence Soloway (Fixed Partial Denture Prosthesis). All of these men practice in Winnipeg and their teaching duties will occupy them for one day a week during the school year.

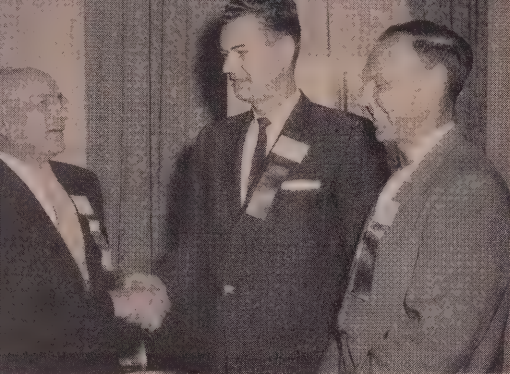
ONTARIO

Eastern Ontario Dental Association Annual Convention

The Eastern Ontario Dental Association annual convention was held in Ottawa on Sept. 13-14-15 and was acclaimed as a success by all who attended.

The Convention opened on Sunday with a Musicales under Dr. Frank Phillips of Brockville, featuring several well known artists. Over two hundred people, mostly dentists and their wives, were treated to a delightful performance.

On Monday and Tuesday the scientific program held sway. Dr. Harold Gelb, of New York, gave three clinics on various phases of full mouth rehabilitation. Dr. L. Rosen of Montreal gave a clinic on Endodontics and Major A. Andrews gave a clinic on drugs current in dentistry. All lectures were well attended and thoroughly enjoyed.



From left to right: Dr. A. Slone, past president; Dr. H. C. Bugden, president, and Dr. J. D. Lyon, vice-president, Eastern Ontario Dental Association.

Our Monday morning Table Clinics were well received and were put on by a good cross section of our EODA "valley" membership. Those putting on the table clinics included Dr. Homer McIntosh of Ottawa, Dr. F. M. Bliss of Brockville, Dr. W. D. Bryce of Ottawa, Dr. R. Feasby of Kingston, Dr. E. J. Fox of Ottawa, Dr. F. Phillips of Brockville, Dr. S. McCaughey of Ottawa, Dr. D. MacDonald of Maxville and Dr. E. Marshall of Ottawa. Table Clinics were under the direction of Dr. J. Lyon of Kingston.

Dr. J. E. Keystone, Assistant chairman of the National Defence Research Board was the speaker at the Monday luncheon and Mr. Tom Foley was the speaker at the Tuesday evening dinner.

Gift tankards were presented to six of the past Presidents. This is an annual event and the recipients this year were Dr. A. W. Grace, Ottawa; Dr. G. O. Hutchison, Ottawa; Dr. J. P. Coupland, Ottawa; Dr. R. McDougall, Ottawa; Dr. D. L. McKerracher, Arnprior; and Dr. A. A. Cameron, Ottawa.

Dr. J. P. Coupland, our member of the CDA Board, gave an excellent report at the business meeting. Drs. Heit (Ottawa) and Feasby (Kingston) made and seconded a motion to reiterate our stand on fluoridation of the communal water supply. This was passed unanimously.

Convention guests included Dr. E. Guest, president of the Ontario Dental Association; Dr. Donald Gordon, president of the Montreal Dental Club; Col. H. L. Harris, representing the R.C.D.C. and Dr. M. V. J. Keenan, Chairman, CDA Board of Governors.

We would like to express our appreciation and thanks to the Ottawa Dentists' Wives Association for their part in making our convention a success by presenting a most enjoyable program for the ladies. As well as the joint activities with their husbands, their own program included a coffee party on Sunday; a reception on Monday morning,

followed by a boat trip up the Ottawa canal on Dr. Bobby Copp's cruiser, the Bonju. On Tuesday there was a luncheon at the Royal Ottawa Golf Club at which time the ladies enjoyed a professional demonstration of floral arrangements. Tuesday evening they entertained at a champagne buffet supper party in the home of Mrs. Russell Beckett.

The Eastern Ontario Dental Nurses' and Assistants' Association held a successful one day convention at the same time. Major A. Andrews spoke to them in the morning on oral antibiotics and in the afternoon they presented nine table clinics which were well done and very well received by all who viewed them. They held a dinner on Monday evening and later joined the dance held for the dentists and their wives.

Marion Collins was their convention chairman and Mollie Fader was president of the D.N. and A.A.

H.C.B.

QUEBEC

Société dentaire de Montréal

The new executive of the Société dentaire de Montréal for 1959-60 is as follows: President, Dr. Marc Thibault; first Vice-President, Dr. Jacques Bélanger; second Vice-President, Dr. Clarence Bouillon; Treasurer, Dr. Paul Manseau; Secretary, Dr. Claude Vachon; Immediate-Past President, Dr. J. P. Lussier; Assistant-Secretary, Dr. Jean Guimond; Librarian, Dr. Florian Terriault; Councillors: Dr. R. Dupont, Dr. André Dalpé, Dr. Jacques Fiset and Dr. Roger Grégoire.

The President foresees for the coming year a heavy scientific program and many social gatherings.

The annual Golf Tournament was held during September and an especially large turnout was experienced both in the men's and the ladies' division. Dr. Rémy Décarie won the Dental Depot trophy for a best gross of 76. Dr. Robert Lambert had the best net score with 82 and won the trophy of the College of Dental Surgeons of the Province of Quebec. Mrs. Germain Duhamel won the Brisson et Fils trophy for the best score in the ladies category. Dr. Antoine Raymond with a score of 95 won the trophy of the Teaching Staff of the Dental Faculty of the University of Montreal.

This year, the three major dental societies of Montreal will unite their efforts for two important scientific meetings. The first will be held at the Queen Elizabeth Hotel on November 23rd when Dr. Arthur H. Morrison, Chief of the Department of Operative Dentistry, New York University College of Dentistry, will talk on "Principles and Evaluation of New Methods of Tooth Structure Removal." The meeting will start at 3.00 p.m. when the first lecture will be presented, this will be followed by a dinner. In the evening a second lecture will be presented.

A similar joint meeting will be held next spring.

The October meeting presented a talk by Dr. Philip Ament on "Conceptions and Misconceptions of Hypnosis."

G.deM.

Montreal Dental Club

The Fall Golf Tournament of the Montreal Dental Club was held on Oct. 2, 1959. It was a beautiful afternoon as 38 members of the Club toured the Summerlea golf course in Montreal.

After all of the divots had been replaced, it was found that Dr. Roy Dohn had won the 1st low gross with a fine score of 78. Second low gross went to Dr. A. J. Schutz. Low net honours went to Dr. Arnold Mitchell, while Dr. R. Harvey came second in this division. The trophy presented by the College of Dental Surgeons of the Province of Quebec for low gross competition among the senior members was won by Dr. A. Donahue. At the Spring Tournament this trophy was won by Dr. R. McMahon.

And so the Club closes another season of golf. Both the Spring and Fall Tournaments were well supported by the members, and I

am sure that everyone derived a great amount of enjoyment from the outings. Many thanks are extended to Dr. A. J. Schutz and Dr. W. D. Sanders, co-chairmen of the Golf committee, for the large amount of organization that went into these events.

J.D.F.

Alpha Omega Fraternity—Montreal Chapter

On Saturday evening, Sept. 26th, the opening social event of the Montreal Alumni Chapter Alpha Omega Fraternity was held at the home of Dr. and Mrs. George Silver.

We are indeed indebted to the Ladies' Auxiliary for the interesting program. The team of experts from R.C.A. Victor discussed Hi Fi and stereophonic tape recording equipment. Movies explaining the recent developments in stereophonic and high fidelity sound were shown, also the latest in equipment was demonstrated for our listening pleasure.

The speakers were thanked by the president of the Ladies' Auxiliary, Mrs. Joyce Greenblatt.

Refreshments were served following the entertainment.

Present for the first time at an alumni meeting were: Dr. and Mrs. Mel Shevell; Dr. and Mrs. Herb Ptack and heir; Dr. Ronald Grossman; Dr. Marcel Tenenbaum; Dr. Hershel Bernstein; and Dr. Ike Silver.

M.G.

SASKATCHEWAN

Saskatoon

The inaugural fall meeting of the local society was very well attended with a better than average number present. Considerable interest was evident owing to the nature of the two items on the agenda.

Dr. J. Schacter, the local representative of the Saskatchewan Dental College, outlined in detail the activities at work to rescind the recent adverse dental legislation in this province.

The various committees necessary for the joint convention in 1961 of the Canadian Dental Association and the Western Canada Dental Society were set up.

The executive of the University Hospital Dental Staff have completed arrangements through the Dean of the University Medical College to put on a refresher course in vital subjects of interest to the dental staff. We anticipate a very interesting and beneficial year.

L.D.H.

GENERAL NEWS

News from Centennial Celebration of the American Dental Association

Dr. Paul Jeserich, President of A.D.A. for 1959-60

Dr. Paul H. Jeserich, Ann Arbor, dean of University of Michigan School of Dentistry, has assumed the ADA presidency for 1959-60. He took office just before the House of Delegates adjourned at the centennial session held Sept. 14-18 in New York. Dr. Jeserich, who succeeded Dr. Percy T. Phillips, New York, will lead organized dentistry in the US during the first year of its second century. Dr. Charles H. Patton, Philadelphia, was victor in the contest for president-elect. Dr. William A. Fennelly, New York, who served as chairman of the general committee on local arrangements for the session, was named by acclamation to serve as first vice president. He succeeds Dr. P. Earle Williams, Dallas. Dr. Gordon L. Teall, Hiawatha, Kan., was elected second vice-president. Dr. Teall's predecessor was Dr. James E. John, Roanoke, Va. The new third vice president is Dr. Raymond A. Hart, Saginaw, Mich., who succeeds Dr. Walter E. Dundon, Chicago. Re-elected to his fifth straight term as Speaker of the House of Delegates was Dr. Gerald D. Timmons, Philadelphia.

The 1960 annual session will be held October 17-20 in Los Angeles. Dr. John B. Wilson, San Marino, California, has been appointed chairman of the general committee on local arrangements.

Honorary Membership in ADA Voted 21

Honorary membership, the Association's highest honor, was approved for 21 men by the House of Delegates during its first meeting of the session Sept. 14. The House honored through its action a group including from the U.S. men prominent in the dental profession and public life and from abroad men known for their contributions to advancement of international dentistry. The group of 21 was the largest ever granted the honor at one time.

Actions of the House of Delegates of A.D.A.

Actions of the House of Delegates during the centennial session resulted in approval of new policies in some areas and reaffirmation of old policies in others.

Trustees Re-appoint Officers to New Terms

The Association's three appointive officers were re-named by the Board of Trustees to serve new terms. They are Dr. Harold Hillenbrand, Chicago, secretary; Dr. Lon W. Morrey, Chicago, editor, and Dr. H. B. Washburn, St. Paul, treasurer. Dr. Hillenbrand received a three-year term and the other two officers one-year appointments.

Fluoridation Topic of Speakers at National Health Luncheon

Fluoridation was in the spotlight at the national health luncheon held during the centennial session of ADA.

Another guest at the luncheon, Abe Stark, president of the New York City Council, chose the occasion to endorse immediate fluoridation for the nation's largest city. Stark declared, "It is about time the City of New York . . . should adopt the practice of adding fluorides to our water supply. There is no reason for us to lag behind Chicago, Philadelphia, Cleveland, Washington, San Francisco and a host of cities in countries throughout the world."

Dr. Leroy E. Burney, surgeon general of U. S. Public Health Service, told persons at the luncheon that the Association's "strong and vigorous advocacy of water fluoridation will stand high on the list of socially responsible actions of all the health professions." Dr. Burney, who was main speaker at the event, said, "More than anything else, your forthright and active espousal of community water fluoridation has marked you with the stamp of leadership." He cited five areas of professional responsibility in which the Association has achieved a distinguished record:

1. Development of an educational program from the apprentice system to the professional level in the university family.
2. Establishment of an enlightened and forthright national policy on dental health programs.
3. Application of preventive principles to clinical and public health practice.
4. Continuing education of the public in dental health matters.
5. Vigorous support of scientific dental research.

FDI Grants ADA Members Honorary Membership

Two Association members were elected unanimously to honorary membership in FDI during the group's 47th annual session. Honored were Dr. Harry Lyons, Richmond, dean of the School of Dentistry of the Medical College of Virginia and a past president of the ADA, and Dr. John W. Knutson, Washington, D.C., assistant surgeon general and chief dental officer of U. S. Public Health Service.

Fluorine Content of Water in the U.S.S.R.

The fluoride content of the drinking water consumed by the populations of the Tatar and the Mari Soviet Socialist Republics was examined to determine whether conditions were present promoting the development of chronic endemic fluorosis and to clarify whether fluoride plays a part in the etiology and pathogenesis of endemic goiter. Water from natural springs, water drawn from the Volga river and the water of several lakes, all used as drinking water, were analyzed.

In the Mari Republic, the water contained from 0.05 to 0.23 ppm fluoride and in the Tatar Republic, from 0.10 to 0.60 ppm. This fluoride content is far below the optimum, and does not predispose to chronic endemic fluorosis. No evidence has been found that fluoride, and especially in such insignificant amounts, can play a role in the etiology or the pathogenesis of endemic goiter.

It was established, however, that the extremely low fluoride content in the drinking water of the Tatar and Mari Republics was accompanied by increased frequency of dental caries.

Dr. Obed H. Moen New President of FDI

A Wisconsin dentist who has been prominent in international affairs of his profession has been elected president of the *Fédération Dentaire Internationale*, world-wide organization of national dental societies.

He is Dr. Obed H. Moen, Watertown, who was chosen unanimously by the FDI General Assembly at the close of the organization's recent 47th annual session held in New York in conjunction with the centennial session of the American Dental Association.

Named for a one-year term, Dr. Moen will preside during FDI's 48th annual session which is scheduled for June 20-25, 1960, in Dublin, Ireland.

The Federation, which has a membership of 225,000 dentists in 48 countries, was founded on Aug. 4, 1900, in Paris during the Third International Dental Congress as a permanent bureau for the organization of international dental congresses.

Only one other international body in the health field, the International Committee of the Red Cross, is older than FDI.

FDI Assembly Endorses "Health for Peace" Plan

FDI has gone on record as supporting principles and aims of S. J. Res. No. 41, which would create an international health research program. In a resolution approved Sept. 19, FDI General Assembly said that objectives of the bill—also known as the International Health and Medical Research Act of 1959—coincide with objectives of the Federation, which has a membership of 225,000 in 48 nations. The FDI group complimented sponsors of the bill in Congress "on the vision and foresight demonstrated in the development and support of this important humanitarian measure." In the resolution, FDI cited the "recognized need for international co-operation and coordination of effort requiring that leadership be assted by the health professions of the world." The bill, also known as the Health for Peace Plan, has passed the Senate and is pending in the House of Representatives.

National Institute of Dental Research

Groundbreaking ceremonies for a \$4,000,000 building to house the National Institute of Dental Research were recently held in Bethesda, Maryland. The structure is expected to be completed in the fall of 1960.

New Building for Faculty of Dentistry in Venezuela

The Faculty of Dentistry will function in a new and modern building from the beginning of the next academic year. The ten-story building will provide ample accommodation for the 297 students distributed amongst the five stages of the course. The old dental equipment has been replaced by 200 of the most up to date units. Spacious rooms for practical work, a well furnished library and closed circuit television are some of the amenities provided in the vast new building. So that the students should not tend too much towards becoming mechanics, lectures will end at 4.30 p.m. to leave time for other intellectual and sporting activities.

William J. Gies 1958 Editorial Award

At the banquet of the American Association of Dental Editors meeting in New York City, Raymond B. Brough, DMD, received the William J. Gies 1958 Editorial Award for his editorial entitled, "Integrity," which appeared in the Bulletin, Fifth District Dental Society, State of New York, October 1958.

In presenting Dr. Brough with a silver plaque and check for \$200, Dr. Bissell B. Palmer, president of the William J. Gies Foundation for the Advancement of Dentistry, stated: "Your editorial exhorting dentists to set for themselves the highest standards of integrity in their professional and patient relationships is an inspiring and valuable contribution to dental journalism. Dr. William J. Gies in whose honor the Foundation was organized, would have joined in our applause."

Dr. Brough is in general practice in Syracuse, New York, is a Fellow of the American College of Dentists, and is the editor of the Bulletin of the Fifth District Dental Society.

The William J. Gies Editorial Award is an annual event. Graduate dentists are invited to submit one or more editorials (for the 1959 award), each limited to 750 words and published in non-proprietary dental journals in the United States or Canada during 1959 to the William J. Gies Foundation for the Advancement of Dentistry, 221 Fourth Avenue, New York 3, New York, by April 1, 1960. Participants are requested, whenever possible, to send 3 copies of each editorial, identified with the name of the writer, publication name, and date.

Stannous Fluoride Study

Recent clinical studies conducted primarily at the University of Indiana and the Department of National Health and Welfare, Ottawa, suggest that topical application of stannous fluoride is superior to sodium fluoride in the prevention of dental caries. The Division of Dental Research, in co-operation with the Division of Dental Services, Toronto Department of Public Health, is planning a two-year clinical study to determine the efficacy of a single application of 8 per cent stannous fluoride in reducing the incidence of dental caries in preschool children in the Riverdale Preschool Dental Project.

The time-consuming procedure for topical administration of sodium fluoride, which involves four separate visits by the patient, makes this investigation desirable. If single applications of stannous fluoride should demonstrate equivalent or greater caries preventive effect than four applications of sodium fluoride, the use of this new agent may prove valuable in preventive procedures in private dental practice.

The American Institute of Oral Biology Case History Service

The Institute continues to offer case histories from the broad field of Oral Biology for the year 1959-60. These will include original 35 mm. Kodachrome slides of pathologic conditions of the oral cavity and jaws, accompanied by pertinent laboratory findings, medical background, roentgenograms, photomicrographs, diagnostic criteria and whatever else may be indicated in each individual case, with a "general discussion" of the disease. A loose leaf binder and matching Kodachrome slide box will be furnished. The fiscal year of the Institute runs from October 1 to September 30.

This monthly service was initiated in 1952 and has met with outstanding success. During these seven years it has provided a total of 1011 one-year subscriptions and the histories were accompanied by 148 Kodachrome slides.

The subscriber to this Case History Service is entitled to full membership in the American Institute of Dental Medicine. Members of the A.D.A. or A.M.A., or their foreign equivalent, are eligible to apply. Due to the great demand for this service, it is recommended to subscribe at an early date for immediate delivery. An index of the various diseases covered during this period will be mailed upon request. Complete series for the years 1954-58 are still available; unfortunately the series for 1952 and 1953 are out of print.

For further information, address all communications to the secretary, Mrs. C. Novembri, 2240 Channing Way, Berkeley 4, California.

Authorizes Further Meetings Between ADA, Justice Dept.

The House approved a resolution offered by the Board of Trustees which was an outgrowth of the Federal Grand Jury study of certain aspects in relations between the dental profession and the dental laboratory group. The House action in effect authorizes appropriate ADA agencies to continue their meetings with Department of Justice officials to determine the full extent of the Department's objections to (1) existing constituent society dental laboratory accreditation programs and (2) ADA policies related to dental laboratory accreditation programs. The House also supported the Board's recommendations that the Council on Dental Trade and Laboratory Relations with the Board's approval modify present Association policy on dental laboratory accreditation so as to "obviate any tenable legal objections."

Charlatans Flourish in Communist China

According to statistics published recently in a Czechoslovak journal, there are only about one thousand dentists in Communist China. As the population is approximately 475 million, the result is about one dentist per half million people.

There is no free practice, all dentists—as all doctors—have to work in the state clinics and must see eight patients an hour.

Innumerable charlatans swarm throughout China practising dentistry. It is probably the country with the greatest amount of illicit practice.

Expanded Program of Activities to Result from Approval of Dues Increase

The House of Delegates overwhelmingly approved an expanded program of activities for 1960 and the largest budget in ADA history by adopting a \$10 increase in annual dues.

Anticipated income for 1960 is estimated at \$3,348,400, which will leave a surplus of \$318,125 to be placed in the Reserve Division. This would be the first time since 1954 that money has been added to the reserve. The increased dues income is expected to

enable the Association to meet its projected needs for the next five years.

Policy Approved Regarding Non-Dentists' Legislative Aims

The House approved three recommendations offered by the Council on Dental Trade and Laboratory Relations pertaining to licensure and registration of dental laboratories and dental laboratory technicians. The first recommendation accepted commits ADA to a definite policy position regarding the legislative ambitions of non-dentists who seek the right to perform dental services directly for the public. The statement reads:

Resolved, that the efforts of untrained and unqualified persons to gain a limited or an unqualified right to serve the public directly in the field of dental practice be opposed as detrimental to the health, safety and welfare of the public.

Through its approval of the Council's second recommendations, the House reaffirmed ADA policy of opposing enactment of occupational licensure and registration statutes for dental laboratory technicians and dental laboratories. Finally, Delegates approved rescinding a number of policies on licensure and registration that were accepted by the House during 1946-58. They were repealed to avoid any question of duplication or conflict regarding ADA position on these matters.

IN MEMORIAM

Henry Shirley Locke—Dr. Henry Shirley Locke of Saskatoon, Saskatchewan, died suddenly on September 26th at his home. He was 63.

Dr. Locke was born in Lockeport, Nova Scotia, in 1896. He moved to Saskatchewan 51 years ago and resided there until he entered the R.C.D.S. in Toronto. He graduated in 1924 and practised in Star City and Shellbrook, Saskatchewan, moving to Saska-

toon in 1943.

Dr. Locke served in both world wars and retired three years ago from the Canadian Army Dental Corps as Lieutenant-Colonel. He took a keen interest in the affairs of dentistry and was a highly esteemed member of the Dental Society.

Surviving are his widow, one daughter, Jeanine and one son, Robert, both of Toronto, also one brother and one sister.

Douglas George Goffin — Dr. Douglas George Goffin of St. Catharines, died on August 10th. He was 42.

Dr. Goffin was born in St. Catharines in 1917 and received his early education at the St. Catharines Collegiate Institute. He graduated from the Faculty of Dentistry, University of Toronto, in 1942 and set up practice in St. Catharines.

During World War II, Dr. Goffin served with the Canadian Army overseas for three years. He was a member of the XI PSI PHI Fraternity.

Surviving is his widow, Merry, also two sons, Walter William and Richard Douglas.

William James Turner — Dr. William James Turner of Edmonton, Alberta, died on August 31st after a lengthy illness. He was 61.

Dr. Turner was born in Aylmer, Ontario and went to Edmonton in 1914. He attended Strathcona High School, Camrose Normal School, the University of Alberta and graduated in dentistry from the R.C.D.S., Toronto, in 1922. Returning to Edmonton, he practised there for 37 years.

Dr. Turner was a charter member of the Cosmopolitan Club of Edmonton, a member of the Ivanhoe Lodge and a member of Robertson Church.

He is survived by his widow, Annie; two sons, Donald and Robert; one daughter, Alice Anne, and two grandchildren.

William Roy Parsons — Dr. William Roy Parsons of Ottawa, died on September 19th. He was 68.

Dr. Parsons was born in Manitoba in 1891. He graduated in dentistry from the Western Reserve University of Cleveland, Ohio, in 1912 and went to Winnipeg in that year, practising there until 1953. He later became dental surgeon at the Royal Ottawa Sanatorium. During World War II he served with the Dental Corps.

Jean Chartier — Dr. Jean Chartier of Montreal, died on August 25th following a short illness. He was 55.

Dr. Chartier was born in Montreal, and was educated at Mont St. Louis College. He graduated in dentistry from University of Montreal in 1926. Dr. Chartier practised in Montreal for the past 20 years. He was a member of the Laval-sur-le-lac Golf Club.

He is survived by his widow, Edna; two daughters, Celine and Suzanne; two sons, Georges and Jean; one brother, Rodolphe, and a sister, Mrs. A. Ladouceur.

William Abner Turner — Dr. William Abner Turner of Kentville, N.S., died on September 5th. He was 71.

Dr. Turner was born in Morristown, Kings County in 1888. The family moved to New Minas when he was a boy and he received his early education at Kentville schools and Horton Academy. In 1912 he graduated from the Baltimore College of Dental Surgery and practised in Pugwash, New Glasgow and Kentville and from 1938 to 1956, when he retired, his practice was in Windsor.

He was a member of Euclid Lodge, A.F. and A.M., New Glasgow; of Hiram Chapter, Royal Arch Masons, Windsor, and Evangeline Chapter Order of Eastern Star, Kentville. He was a former member of the Ken-Wo Golf and Country Club. An ardent horseman, Dr. Turner took pride in the horses he trained and reined around the oval. He was one of the promoters of the Windsor Harness Racing Club.

Dr. Turner is survived by his widow, Nina; two sons, Dr. Garnet Turner and Dr. Terry E. Turner; three brothers, Dr. Spurgeon Turner, Percy and Sheldon, and two sisters, Gladys and Eva.

Frank Young — Dr. Frank Young of Vancouver died suddenly on September 9, 1959. He was 57 years of age.

Born in Southend-on-Sea, England, he took his dental degree at North Pacific College, Oregon, in 1928 and registered in B. C. the same year.

During the depression he operated up and down the coast on his yacht, and then established practice in the Birks Building where he remained until the day of his death.

He was a member of the Duke of Connaught Lodge No. 64, A.F. & A.M., North Vancouver, and Gizeh Temple No. 85, Vancouver. His ranch at Princeton was an outlet for his love of horses and he spent most of his leisure time there.

Dr. Young leaves his wife, Ethel, two daughters and three grandchildren.

Emerson Robert Sawyer — Dr. Emerson Robert Sawyer of Calgary, Alberta, died on September 30th.

Dr. Sawyer was born in Gilford, Ontario, in 1878. He graduated from the Northwestern University in 1904.

NOTICE TO CONTRIBUTORS

COMMUNICATIONS:

Original manuscripts and correspondence should be sent to—Editor, Journal of the Canadian Dental Association, 234 St. George St., Toronto 5, Ontario, Canada.

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Manuscripts should be double or triple spaced typewritten on 8½" x 11" paper using one side only, leaving wide margins. The original should be sent to the editor and a copy retained by the author. Each page should be numbered. The author's name and abbreviated title of the article should appear at the top of each manuscript page. The title should appear at the top of the first page with the main words capitalized. The author's name and degree(s) should be two lines below and if the author wishes to give his affiliations, these should be listed as a footnote and referred to by an asterisk after his name and degree(s).

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appear on a separate page. It is preferable to mention only the authors whose material has been used and to designate the reference within the text by means of a superior numeral, e.g. earlier findings by Smith¹ revealed that References should be arranged numerically in order of their appearance in the text in preference to alphabetical order. References should be arranged as follows: citation number, last name of the author, first name and initial, title of the article, name of the journal or text with volume, pages, month and year.

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Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
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1967	Toronto, Ontario	May

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FUTURE EVENTS

Date	Function	Location	Officer	Address
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Traitement antibiotique des parodontopathies*

par M. PAUL COUTURIER, Aix-les-bains (Savoie), France

I — INTRODUCTION

En dehors des médicaments préparés pour sa spécialité, l'odonto-thérapeute a recours aux découvertes que la médecine générale met à sa disposition pour lutter contre les affections bucco-dentaires.

C'est ainsi que l'antibiothérapie fait aujourd'hui partie de la pharmacopie dentaire (E. BIOCALTI), et en l'occurrence paradentaire.

Nous allons essayer de faire le point actuel sur ce sujet récent, mais néanmoins fort touffu et controversé.

II — GÉNÉRALITÉS

L'antibiothérapie est une thérapeutique révolutionnaire basée sur l'utilisation de substances d'origine soit mycélienne (champignons inférieurs), soit bactérienne.

Ces substances ont un effet soit bactériostatique (capable d'inhiber la prolifération microbienne), soit bactéricide (déterminant la lyse microbienne).

Leur mécanisme d'action (encore discuté, par processus d'altération du métabolisme intramicrobien pour O. Noepfel, ou d'ordre diastatique), a été d'ailleurs remarquablement analysé par le Pr. A.J. HELD (Annales O.S. Lyon No. 2 — 1954).

L'intérêt de l'antibiothérapie réside:

- en sa haute valeur antibactérienne
 - en son mode d'action différent des antimicrobiens chimiothérapiques (antiseptiques et sulfamides)
- elle présente sur la chimiothérapie l'avantage théorique
- d'être plus biologique
 - d'être moins toxique

*Conférence présentée à l'Université de Montréal, le 24 septembre 1959.

- de posséder une plus grande diffusibilité
- d'obtenir ainsi une stérilisation plus rapide, avec des résultats souvent spectaculaires.

III — HISTORIQUE

a) **PRÉCURSEURS**: observations expérimentales de l'action antibiotique découlant de la constatation in vitro soit de la concurrence vitale interbactérienne, soit de l'antagonisme biologique entre moisissures et microbes.

PASTEUR (1877) action de certaines bactéries anaérobies non pathogène sur les staphylocoques de l'enthrax.

VAUDEMER (1892-1913): action de l'*Aspergillus fumigatus* sur le Bacille de la Tuberculose.

B. GOSIO (1896): action du *Penicillium Brevicompactum* sur la Bactérie charbonneuse.

E. DUCHESNE (1897): action du *Penicillium glaucum* sur l'eau microbienne, le Bacille d'Eberth et le *Bacterium Coli*.

Inspirée par le Pr. **ROUX** et passée à **LYON** le 17 décembre 1897, la remarquable thèse expérimentale d'**E. DUCHESNE** contient ces deux phrases prophétiques:

"N'y a-t-il pas des cas où les moisissures peuvent triompher? sinon tuer les bactéries, du moins paralyser leurs effets nocifs?"

"On peut donc espérer qu'en poursuivant l'étude des faits de concurrence biologique entre moisissures et microbes, on arrivera peut-être à la découverte d'autres faits directement utiles et applicables à l'hygiène prophylactique et à la thérapeutique"

E. DUCHESNE doit donc être considéré à juste titre comme le *précurseur* de l'antibiothérapie. Cependant, sous l'influence des idées pastoriennes, la bactériologie était orientée à cette époque principalement vers la sérothérapie et la vaccinothérapie: malgré ses pressentiments, les contemporains de **DUCHESNE** se désintéressent de ses recherches, sa thèse reste ignorée aussi bien des chercheurs de l'Institut Pasteur . . . que de ceux d'Oxford.

Cette thèse originale ne sera exhumée qu'en 1949 par **J. GODART** et **HASSEN-FORDER**.

b) CRÉATEURS

— 1929: le pouvoir antibiotique du *Penicillium Notatum* est accidentellement redécouvert ("grâce à un heureux hasard" suivant ses propres termes) par **A. FLEMING**.

— 1940: l'extraction, la purification, le dosage de la Pénicilline de **FLEMING** sont réalisés par le groupe d'Oxford (**FLOREY**, **CHAIN**, **GARDNER**, **HEATLEY**, **JENNINGS**, **SANDERS**, **ORREWING**, **ABRAHAM** et **FLETCHER**).

— 1941: production industrielle des préparations biologiques en Angleterre, E.-U., Canada.

— 1946: synthèse industrielle par du **VIGNEAUD** et **ROBINSON**.

— 1947: **VAKSMAN** redéfinit l'action antibiotique.

Depuis, de nombreuses variétés de mycoïdes ont vu le jour, dont quelques-uns sont appliqués en pathologie anti-infectieuse stomatologique et en particulier en parodontologie.

1939: **THYROTICINE**=antibiotique bactérien, extrait du *Bacillus Brevis* par **DUBOS-SHARP** et **DOM**.

(mélange de 2 polypeptides: thyrotricine et gramicidine)

1943: **BACITRACINE**= antibiotique bactérien extrait du *Bacillus subtilis licheniformis* par **JOHNSON**, **ANKER** et **MELENEY**.

(le germe producteur a été isolé d'une plaie chez un malade nommé **TRACY**).

1944: **STREPTOMYCINE**= antibiotique fongique extrait du streptomycètes grisés par **WAKSMAN**, **SCHATZ** et **BUGIE**.

1947: **CHLORAMPHÉNICOL** (ou chloromycétine ou Tifomycine) **A.** fongique extrait du streptomycètes venezuelae par **BURKHOLDER** et **EHRlich** (Synthèse depuis 1949)

1947: **FRAMYCÉTINE** (ou Soframycine) = **A.** fongique extrait du streptomycètes *Decaris*.

1947: AURÉOMYCINE = A. fongique extrait de streptomycètes auréofaciens

1950: TERRAMYCINE (ou oxytétracycline) = A. fongique extrait du streptomycètes rimosus.

1950: MYCOSTATINE (ou Fungicide ou Nystatine = antibiotique antifongique polyvalent extrait du streptomycètes noursei par DROUHET.

1951: SPIRAMYCINE (ou Rovamycine) = A. fongique extrait du streptomycètes ambofaciens par S. SINNERT-PINDICO et collab. (NINET, PREUDHOMME, GOSAR).

1952: TÉTRACYCLINE (ou Tétracyne ou Sanclomycine) = par hydrogénation de l'Auréomycine.

D'après leur action de bactériostase ou de bactéricidie et leur voie d'administration, ces antibiotiques peuvent être classés en trois groupes (d'après C. VIALATEL et Pr. PERROT).

Groupe I: bactériostatique	Chloramphénicol Auréomycine Terramycine Tétracycline	} — usage général à large spectre.
Groupe II: bactériostatique et bactéricides	Pénicillines Spiramycine	
Groupe III: Antibiotiques de contact ...	Thyrotracine Bacitracine Framycétine	} — d'usage externe.

c) EXPÉRIMENTATEURS EN STOMATOLOGIE PARODONTOLOGIQUE:

Appliquée dès 1944 en Europe continentale à la pathologie anti-infectieuse générale, l'antibiothérapie l'est dès 1945 à la stomatologie.

Son apparition en parodontologie est

plus tardive:

1947: COLASANTI signale les heureux résultats obtenus par l'application locale de VIVICILLINE.

1948: Au XI^e Congrès Français de Stomatologie, LATTES, VRASSE et BATAILLE n'en font pas mention contre les parodontopathies.

1951: Au XII^e Congrès Français de Stomatologie: "la littérature est pratiquement muette sur l'usage des antibiotiques mycéliens dans la pyorrhée" (FRIEZ: rapport sur le traitement des pyorrhées).

1952: KUTSCHER

1954: JAFFRE et REDISCH puis DRIEUX (1956) et BADER (1958)

Emploi de TERRAMYCINE, associée ou non à l'hydrocortisone.

1956: Etude princeps de DALIGAND et PELLERAT sur l'emploi oral de la Spiramycine.

1958: Contributions de COUTURIER, HESS = sur Spiramycine.

En résumé, *trois modes d'administration* sont préconisés dans divers troubles parodontaires:

tose pyorrhéique, l'infection est un phénomène *secondaire* et ne peut être l'objet que d'une thérapeutique *accessoire*.

— c'est également l'opinion de Mme

Sur les parodontites (superficielles ou profondes)	A) Général (par injection Parentérale)	Pénicilline (RICHARD et HENNION 1945)	
	B) Application locale	- instillation dans clapiers - solution de bain de bouche - tablette à sucer - gomme à mâcher	- Pénicilline - Thyroticline - Terramycine, Bader, 1958 - Bacitracine - Bacitracine—Pénicilline (forte synergie remarquée par EAGLER et FLEICHMAN)
	C) Générale <i>per os</i>	- Auréomycine - Terramycine	- LEBOURG, 1951 - LEBOURG, 1951, 1952 - KUTSCHER, 1954 - JAFFRE, REDISH, POLLOCK, ARCHER, MORIN, NATHANSON, VI-GNEUL, DRIEUX; 1956 - BADER 1958
Sur la parodontose		- Chloramphenicol - Tétracycline - Spiramycine	- DALIGAND-PELLERAT 1956 - COUTURIER 1958 - HESS 1958.

En face de son apparition tardive en clinique parodontologique (hésitation, crainte à l'employer), en face de ces multiples applications, de ces divers modes d'administration (injections parentérales, applications locales, ingestion orale), sur les affections parodontaires banales (gingivites et gingivo-stomatites) aussi bien que sur la parodontose, que penser de l'antibiothérapie? Elle a ses inconvénients, mais elle a aussi ses avantages.

IV — INCONVÉNIENTS

L'antibiothérapie, employée précocement en stomatologie, l'a été tardivement en parodontologie.

Quelles ont été les raisons de ce retard?

- L'infection pyorrhéique est considérée comme secondaire.
- la nature de cette infection (essentiellement chronique) explique l'inefficacité des antibiotiques.
- l'antibiothérapie est dangereuse.

a) L'INFECTION PYORRHÉIQUE EST CONSIDÉRÉE COMME SECONDAIRE

— Le Pr. HELD (Parodontologie, avril 1950) considère que dans la parodon-

CHAPUT pour qui l'antibiothérapie ne sera jamais la thérapeutique majeure des parodontopathies (la parodontolyse étant principalement une dystrophie osseuse à infection secondaire).

Le Pr. Held, propose de réserver l'antibiothérapie:

- aux complications *aigües* localisées, d'évolution douloureuse
- aux complications *aigües* avec élévation de température, traduisant l'atteinte générale.

b) LA CHRONICITÉ DE L'INFECTION PYORRHÉIQUE S'OPPOSE A L'EFFICACITÉ DES ANTIBIOTIQUES

"la forme même de l'infection pyorrhéique explique que les antibiotiques ne peuvent être directement efficaces" (FRIEZ, 1951)

En effet, l'antibiotique agit *plus* sur les lésions *aigües* que sur les lésions chroniques et l'infection pyorrhéique est justement caractérisée par sa *chronicité*.

Il semble qu'il y ait antinomie entre ces deux propositions avec peu de chance théorique pour l'antibiothérapie d'agir, de par: l'accoutumance de l'organisme, la sensibilisation des germes, les résistances

individuelles ou croisées, et tentation, en face de la multiplicité des germes parodontosiques, de faire appel:

- soit à une polyanthibiothérapie dangereuse
- soit à un antibiotique à spectre très étendu (générateur de déséquilibre microbien intestinal. Autrement dit, le remède risque d'être pire que le mal.

c) DANGER DE L'ANTIBIOTHÉRAPIE

"Les éclatants succès remportés sur l'agent microbien spécifique ne sont pas toujours sans risques" (G. CONSTANT).

A côté de son action directe (toxicité), l'antibiotique est susceptible d'exercer des effets *seconds* en face desquels la thérapeutique se trouve parfois désarmée.

Effets secondaires dus: — aux propriétés allergisantes de l'antibiotique
— à la perturbation de la flore utile,
— accroissement de la résistance de l'organisme.

1) TOXICITÉ INDIVIDUELLE DE L'ANTIBIOTIQUE (O. NOEPPÉL)

a) Certains antibiotiques sont de véritables poisons, notamment pour:

- le *système nerveux* (en particulier système cochléo-vestibulaire) en provoquant: vertiges, surdité, paresthésie linguale.
cas pour: streptomycine (et néomycine, viomycine, polymyxine)
- le *sang*: en provoquant: hémorragies buccales, épistaxis, agranulocytose, anémies aplastiques, leucopénies.
cas pour: chloramphénicol (sa formule contenant un radical nitrobenzénique, d'après RICH)
- le *rein*: en provoquant néphrites et oligurie.
cas pour: Bacitracine (et néomycine, polymyxine)
- le *foie*: (ictère)

b) Certains antibiotiques sont très peu toxiques:

Tétracycline
Auréomycine
Terramycine
Spiramycine

c) D'autres sont atoxiques: Pénicilline.

2) PROPRIÉTÉS ALLERGISANTES provoquant diverses manifestations d'intolérances parmi lesquelles:

- a) fièvre des antibiotiques, sécheresse buccale (xérostomie)
- b) éruptions cutanées muqueuses: conjonctivite, œdème, ulcérations bucco-pharyngées, cheilose, gingivites érythémateuses, sensation de brûlures, lésions eczémateuses (Auréomycine), dermites de contact.

c) chocs anaphylactiques plus ou moins aigus et manifestations d'ordre sérique, (urticaire, arthalgies, gonflement ganglionnaire, éosinophilie).

Les Bacitracine, Thyrotricine, Framycétine ne se sont pas révélées allergisantes et mériteraient d'être davantage utilisées dans la cavité buccale (Pr. PERROT).

3) PERTURBATION DE L'ÉQUILIBRE MICROBIEN NORMAL

a) au niveau *buccal*: la suppression des germes sensibles aux antibiotiques (Pénicilline, Chloromycétine, Auréomycine en applications *locales*) provoque un déséquilibre (T. HURNY) biobactérien avec prolifération d'un germe voisin du *candida Albicans*, se manifestant par la mélanoglossie (langue noire ou black tongue).

Cette moniliase, cette surinfection mycosique est bénigne et localisée aux régions bucco-pharyngées.

Trait. préventif: vitamine B. à forte dose;

"curatif: absorption par voie orale d'un fongistatique ou fongicide atoxique (mycostatine) voir posologie chapitre 9).

b) au niveau *intestinal*:

Le gros inconvénient de l'antibiothérapie par voie *orale* (surtout celle des antibiotiques à *large spectre*) est son action perturbatrice sur la flore microbienne normale de l'intestin. Si ces germes saprophytes et utiles (colibacilles, coliformes Protéus et Aerobacter) sont sensibles à

l'antibiotique, ils disparaissent pour laisser la place à une nouvelle flore résistante.

Ce phénomène, appelé "rupture des équilibres microbiens normaux" est à l'origine:

- d'accidents digestifs ou gastro-intestinaux: douleur épigastrique, nausées, vomissements, diarrhées ou constipation, entérococolite séreuse bénigne pouvant aller jusqu'au grand syndrome cholériforme mortel.

Ces accidents frappent surtout les femmes (CONTE et MALVEZIN, Paris 1956.). Responsables: Terramycine, puis Chloramphenicol, Auréomycine, Tetracycline.

- des mycoses de surinfection: mélanoglossie
- des avitaminoses: carence en vitamine B.

Il sera donc utile, pour éviter cette destruction de la flore utile intestinale:

- d'éviter les antibiotiques à large spectre d'action;
- d'équilibrer le milieu intestinal par vitamines, levures et acide lactique (NADAL-VALLDAURA)

V) ACCROISSEMENT DE LA RÉSISTANCE DE L'ORGANISME

Après les nombreux abus, par emploi abusif ou intempestif pour des lésions trop souvent légères, le pouvoir inhibiteur des antibiotiques fongiques s'est rapidement émoussé, de plus en plus les faits d'adaptation des germes se sont multipliés ainsi que l'accroissement de la résistance de l'organisme.

"Il y a quelque chose de pire qu'une âme perverse, c'est une âme habituée" dirait BERGSON, c'est un peu la même chose pour les germes de la parodontose: il y a quelque chose de pire que leur pouvoir pathogène, c'est leur accoutumance aux antibiotiques usuels.

Pour ne citer qu'un seul exemple, celui du staphylocoque, voici les chiffres alarmants fournis par GOSLINGS (de Leyde, Hollande):

- La proportion des souches résistantes de staphylocoque a augmenté
- pour la Pénicilline: de 13% en 1947 à

70% en 1952-53

- pour Streptomycine: de 15% en 1947 à 45% en 1952-53
- pour Chloramphenicol: de 0% en 1947 à 20% en 1952-53
- pour Oxytetracycline: de 0% en 1947 à 15% en 1952-53
- pour Auréomycine: de 0% en 1947 à 15% en 1952-53

en 1952-53, 5% de ces souches étaient résistantes *simultanément* à ces 5 antibiotiques mycéliens.

Bien qu'en règle générale les antibiotiques à *large spectre* (Terramycine, Tétracycline, Chlortetracycline, Chloramphenicol) montrent une tendance à créer des résistances beaucoup moindres que les autres antibiotiques (Pénicilline, Streptomycine) (SCHNITZER et GRUNBERG, 1957)

En résumé sur les dangers des antibiotiques, leur emploi abusif ou intempestif peut provoquer des réactions biotropiques directes ou indirectes.

Directes: stimulation infectieuse;

accès thermique,

aggravation des signes généraux.

Indirectes: autrement moins graves que l'accident primaire, mais ces accidents résiduels, pas encore tous élucidés ni prévisibles, sont toujours à craindre.

VI — ARGUMENTS MILITANT EN FAVEUR DE L'ANTIBIOTHÉRAPIE.

a) CONSTANCE DE L'INFECTION DANS LES PARODONTOPATHIES

"La parodontose n'est pas toujours initialement une maladie infectieuse, mais elle finit toujours par l'être à un moment quelconque de son évolution.

L'inflammation primitive ou secondaire est la grande préoccupation du praticien; c'est elle qui amène le plus souvent les malades à consulter à l'occasion de nouvelles poussées." (LEBOURG)

Même dans la parodontose atrophique sèche, en apparence apyorrhéique, le bactériogramme est très riche et insoupçonné.

B) BIEN QUE SECONDAIRE, L'INFECTION N'EN EST PAS MOINS INDÉSIRABLE ET MÊME REDOUTABLE.

Si l'infection apparaît comme secondaire, il serait dangereux de tomber d'un extrême à l'autre et de la mésestimer.

1) — elle provoque des ravages locaux: lyse des supports paradentaires, expulsion des organes dentaires. La suppuration est l'obstacle majeur à la réinsertion gingivale, au rattachement ligamentaire (F. CARRANZA 1951 et 1957) et à la possibilité de toute stabilisation, de toute consolidation. Enfin elle est responsable de la chronicité et des récides du syndrome pyorrhéique (partiellement)

2) — troubles de voisinage: abcès, sinusites par fusée serpigneuses.

3) — troubles à distance.

a) ensemencement et intoxication directe du tractus digestif et annexés par pyophagie (ulcères duodénaux)

b) infection focale: dermatose faciale arthrite des membres inférieurs (Pr. CORDONNIER)
endocardite d'OSLER (Pr. LIAN)

La suppression de l'infection semble une condition sine qua non à toute thérapeutique rationnelle. Cela est si vrai que la thérapie cellulaire de Paul NIEHANS (essentiellement régénérative) ne peut être appliquée aux parodontoses pyorrhéiques, car la cellule embryonnaire fraîche est détruite par l'infection.

Il est difficile d'admettre qu'une cellule adulte et partiellement lésée puisse récupérer pleinement chez le parodontosique; sa capacité fonctionnelle, alors que la cellule fœtale apportée par la cellulothérapie, cellule douée d'un potentiel vital immense, ne peut s'intégrer dans un parodonte infecté. C'est dire l'utilité, et même la nécessité, de combattre l'élément infectieux.

VII — IDENTIFICATION DE L'INFECTION PYORRHÉIQUE

Si l'étiologie infectieuse de la parodontose est depuis longtemps reconnue et mise en valeur (LEBOURG), l'élément infectieux est controversé quant à sa nature et à sa composition.

— Pour les uns, il y a un germe spécifique aérobie, d'origine digestive et apportée à la gencive (grâce à son électivité tissulaire) par voie hémotogène.

(entéricoccémie de R. VINCENT)

— Pour d'autres, les germes anaérobies priment et viennent de la flore fondamentale du milieu ambiant (allergie putride de LEHMANS et VINCENT). Ces auteurs opposent au germe infectant le traitement vaccinal:

- soit autovaccination spécifique;
- soit protéinothérapie.

Avant de confronter la valeur respective des vaccinothérapies: spécifique ou désensibilisante, et pour essayer de supprimer toute contestation sur l'image bactériologique de la pyorrhée, il importe de reviser le cadre direct des lésions pyorrhéiques.

Ce cadre comporte:

- le milieu salivaire,
- le tartre
- le contenu des clapiers,
- la surface muqueuse,
- le sang gingival.

Analysons l'image bactériologique de chacun de ces éléments:

1° — Le milieu salivaire

Le noyau fondamental de la flore buccale normale, (d'après DECHAUME et collaborateurs et CAFLISH), présente:

- cocci (spécialement streptocoques)
- spirochètes
- groupe de Moro-Tissier (?)
- leptotrichia
- flore de Veillon
- diphtéroïdes

soit une coexistence de germes aérobies et anaérobies.

2° — Le tartre (et particulièrement le tartre sérique), renferme toujours d'après LEHMANS et VINCENT, et l'allemand BRIEDIS, tous les éléments de la flore anaérobie buccale:

- bacilles fusiformes,
- spirochètes,
- vibrions
- leptotrix
- staphylo et strepto anaérobies, ainsi que bâtonnets et cocci aérobies

3° — Dans le contenu des clapiers: anaérobies en même abondance, et présence de divers aérobies.

Même dans la forme dystrophique (dite sèche), pourtant pauvre en bactéries, on observe toujours la prédominance des spirochètes.

4° — *Surface la muqueuse gingivale:*

Bouches normales		Parodontites
Au niveau de surface muqueuse		
— microques pyogènes	32%	45%
— neisseria	19%	
— strepto pyogènes	16%	
— leptotrix	16%	
— diploc. pneumon	9%	24%
— corynebact. pseudodipht	8%	+Bacillus subtilis Bacillus influenzae.
Bouches normales		Parodontites
Culture sang prélevé en profondeur des muqueuses saines.		
— strepto salivarius		id.
— strepto mitis (viridans)		id. + strepto pyogènes

MIOTTI conclut: "en période inflammatoire, le nombre des germes augmente avec l'apparition de nouvelles espèces bactériennes".

Jusqu'ici est donc constante la coexistence de germes aérobies et anaérobies (avec prédominance de ces derniers): tous les auteurs sont d'accord sur ce point.

5° — *Sang gingival:* il était normal de

vérifier si ces mêmes germes, constamment mixtes, se retrouveraient dans le sang gingival pyorrhéique. Ceci, bien entendu, en cultivant en aérobiose et en anaérobiose. Voici les conclusions de plusieurs microbiologistes:

I. — PREVOT, sur 4 cas, retrouve les associations suivantes aéro-anaérobies:

cas	aérobies	anaérobies
1	strepto salivarius staphylo albus	staphylo aérogènes corynébact, dyptér. leptotrichia
2	strepto pyogènes	association fuso-spirochétienne veillonella parvula strepto intermedius
3	staphylo albus strepto salivarius	veillonella parvula
4	staphylo albus strepto pyogènes	strepto micros.

II. — LEHMANS et VINZENT se livrent en 1951 à des cultures comparatives: ils appliquent fidèlement la technique décrite par René VINCENT, mais en employant, en plus de son milieu culturel habituel, des milieux adaptés au développement des anaérobies buccaux.

Leurs investigations ont porté sur 24 cas:

- 11 au stade prémonitoire,
- 9 à la période d'état,
- 3 de gingivite tartrique.

Sur 11 cas de stade prémonitoire, ils ont retrouvé:

- en aérobies: strepto-entéro, 8 fois,
- catarrhalis associé, 2 fois (micrococcus),
- absence de germes aérobies, 3 fois;

par contre, les anaérobies sont présents 10 fois, dont 3 cas avec la flore anaérobie au complet (bacilles Gram + et —, spirochètes, cocci)

Sur 9 cas de période d'état:

- aérobies retrouvés 6 fois: strepto-entéro, 5 fois,
- corynebactérie G +, 1 fois,
- anaérobies retrouvés 6 fois: fusiformes, vibrions Gram —
- spirochètes, ristella, ramibactérium.

Comme il fallait s'y attendre, ces anaérobies sont plus complexes à la période d'état qu'au stade prémonitoire.

3 ponctions ont été négatives (laissant stériles à la fois les milieux aéro et anaérobies) (vaso-constriction par réflexe émotif).

Sur 3 cas de gingivite tartrique: 3 cultures négatives.

Remarquons, en passant, cette possibilité des cultures négatives, elle aura son importance. Leurs premières investigations très suggestives font conclure à LEHMANS et VINZENT:

a) — le sang gingival pyorrhéique contient fréquemment le strepto-entéro-aérobie, comme l'avait remarqué René VINCENT depuis 1930;

b) — mais aussi fréquents et associés sont les anaérobies de la flore buccale;

c) — dans la majorité des cas de ponction positive, la plucrité des germes est la règle (aéro-anaérobies) et non pas l'unicité de l'aérobie.

III. — L'allemand KLINGE (1935), de son côté, analyse 10 cas et indique:

- strepto viridans 70%
- staphylo,
- pneumocoque,
- corynebactéries,
- fuso spirilles (40% selon BOBER de Vienne).

IV. — BERGER (de Wien, 1954) analyse 60 cas:

- spirilles 93%
- vibrions 75%
- strepto pyogènes et minutus,
- fusiformes,
- colis,
- borrelia Buccalis et Vincenti,
- treponema micro et macrodentium
- et conclut:

"Les parodontopathies inflammatoires sont surtout des fuso-spirochétoses, avec augmentation des anaérobies et des protozoaires, alors que la flore aérobie se modifie peu."

Ces observations sont concordantes pour PERET, BOBER, ALBANESE, JARAMILLO, HARRISON, ROSEBURY, DONALD, CLARCK, pour REED et ENGELMAN, pour BROWN et COXON.

En face de cette presque unanimité des auteurs dénombant plusieurs microbes, deux seulement reconnaissent un germe unique.

I — Pour GINS, la parodontose est une spirillose (due à 3 anaérobies); il semble qu'il n'ait vu qu'une partie de la microbiologie, d'après l'étude critique récente d'ANSPACH, KANTOROWICZ et SAUERWEIN et celle d'EICHNER.

II — Le deuxième uniciste est René VINCENT, qui écrit dans son traité (page 124): "Dans le sang gingival cultivé, on observe que des colonies d'une même et unique variété de microbe, l'entérocoque le plus souvent, accessoirement le staphylo et le colibacille". Ce germe unique, remarquons-le, est aérobie, en contradiction avec l'opinion de l'autre uniciste, GINS, qui prône un anaérobie. Mais il est permis de se demander pourquoi René VINCENT ne cultive qu'en aérobie, alors que le cadre de la pyorrhée et les diverses analyses précitées reconnaissent

une flore mixte? R. VINCENT et PRETET insistent à juste titre sur le fait que l'hémo-culture gingivale ne doit mettre en évidence qu'un seul germe, en opposition avec la richesse habituelle de la flore polymorphe des clapiers, et précisent, pour ce faire, de ponctionner en plein tissu gingival (et non dans la zone marginale cryptulique déjà pénétrée par l'infection secondaire).

Si nous sommes d'accord sur cette précaution opératoire, (sans laquelle les résultats risquent d'être faussés), nous ne le sommes plus à propos du milieu de culture.

En effet, ensemercer sur seule gélose nutritive, inclunée, (c'est-à-dire sur milieu aérobie) revient à éliminer délibérément les germes mixtes.

Sans doute, le fait que 80% des pyorhétiques puissent avoir des antécédents entéropathiques et que le germe habituel de l'intestin soit le strepto-entéro (aérobie), incitait à vérifier "*l'accolade bactériologique*" entre un *foyer primaire intestinal* et une métastase secondaire gingivale.

Mais pourquoi n'ensemencer l'hémogingivoculture qu'en aérobie? C'est peut-être retrouver un aérobie (l'entérocoque), mais peut-être aussi passer à côté d'autres germes possibles anaérobies. Il semble, d'après LEHMANS et VIN-

ZENT, que "tout examen bactériologique d'une lésion pyorrhéique, ne comportant pas la recherche des anaérobies, ne peut renseigner sur la nature exacte des agents microbiens que d'une façon très incomplète, donc erronée."

Personnellement, il nous apparaît que les données de René VINCENT sont exactes mais tronquées et qu'il y a intérêt à saisir l'image bactériologique dans son ensemble, suivant la recommandation des traités sérieux actuels.

Le Prof. Armand NEVOT, écrit par exemple ceci:

"On aura intérêt le plus souvent à pratiquer l'hémoculture à la fois en milieu aérobie et en milieu anaérobie. L'emploi systématique de ce double ensemencement dans certains services hospitaliers parisiens a montré l'intervention fréquente de germes anaérobies dans des affections où on ne les soupçonnait guère."

Ceci n'enlève rien, bien entendu, à l'immense mérite de René VINCENT qui est d'avoir soupçonné l'existence d'un syndrome entérogingival, d'avoir fait de l'hémoculture gingivale une méthode d'investigation pathogénique, une méthode diagnostique précieuse dans certains cas, et d'avoir introduit la pyorrhée dans le cadre de la médecine générale.

(à suivre)

Nouvelles de l'Association

Le Congrès du Centenaire de l'Association dentaire américaine attire une foule sans précédent

Le Congrès du Centenaire de la fondation de l'Association dentaire américaine, qui eut lieu du 14 au 18 septembre, a battu tous les records d'assistance pour le nombre de dentistes inscrits à un congrès. Trente-cinq mille personnes se sont inscrites au congrès, dont 19,412 dentistes. Ce fut le congrès le plus considérable jamais vu. Au-delà de 2,400 dentistes venaient de pays étrangers.

La Fédération dentaire internationale a tenu en même temps sa quarante-septième réunion annuelle, à laquelle assistaient des représentants de trente-cinq pays différents.

Le congrès a obtenu son succès grâce à un travail ardu de plusieurs années. Les séances scientifiques se déroulaient au Coliseum et les réunions d'affaires de l'Association dentaire américaine à l'hôtel Waldorf-Astoria; celles de la Fédération dentaire internationale, à l'Hôtel Manhattan. Les disponibilités dont dispose la ville de New-York pour les visiteurs ont été taxées à l'extrême limite.

Cet événement marque une date dans l'histoire de la profession dentaire. Les avantages qu'elle en retire bénéficient non seulement à ceux qui assistaient à ces manifestations, mais à tous les membres qui la constituent.

Le président de l'Association dentaire canadienne, le docteur William G. McIntosh et le secrétaire, le docteur Don W. Gullett, y représentaient officiellement la profession dentaire canadienne. Le docteur McIntosh, à une cérémonie de caractère international, a présenté à l'Association dentaire américaine, au nom de l'A.D.C., une magnifique sculpture sur bois, oeuvre d'un artiste connu canadien de langue française.

Des Canadiens élus à l'American College

Le docteur Don W. Gullett, secrétaire de l'A.D.C., a été élu président de l'American College of Dentists à une réunion de cet organisme tenue à l'occasion du congrès de l'A.D.C.

D'autres Canadiens ont été élus membres de Collège: le docteur George M. Dewis, de Halifax, président sortant-de-charge de l'A.D.C.; de docteur James D. McLean, de Halifax, doyen de la faculté dentaire de l'Université Dalhousie, le docteur Wesley J. Langmaid, de Oshawa, le docteur C. A. E. McCabe, de Montréal, le docteur Wesley J. Dunn, Toronto, registraire-secrétaire du Collège Royal des Chirurgiens-Dentistes de l'Ontario et ancien rédacteur du Journal de l'A.D.C., et le docteur Frank Martin, de Toronto.

Fonds de recherches de la Reine Elizabeth

Le gouvernement du Canada, pour souligner le passage de la Reine au Canada, a adopté la loi C-65 intitulée "Loi du fonds de recherches canadiennes de la Reine Elizabeth II." Cette loi pourvoit à l'établissement et à l'administration d'un fonds destiné aux recherches sur les maladies des enfants. Le gouvernement canadien a souscrit un million de dollars pour créer le fonds.

Le docteur W. G. Mc Intosh, président nouvellement élu de l'Association dentaire canadienne, a écrit à ce sujet au Ministre de la Santé nationale et du Bien-Etre social en lui demandant de songer aux maladies dentaires quand les bourses seront attribuées. Sa lettre disait en partie:

"L'Association dentaire canadienne a surtout centré ses recherches au point de vue prévention et elle croit donc que ces bourses sans précédent pourront aider à ces recherches. Les pathologies dentaires, selon nous, devraient être l'objet de considérations quand seront mises en acte les intentions de cette nouvelle loi. Nous demandons qu'on songe à l'Association dentaire canadienne quand les octrois de

recherches seront remis aux organismes sanitaires du pays."

Le Ministre a répondu que son ministère étudierait sérieusement la demande du docteur Mc Intosh quand l'administration du fonds aura été mise sur pied.

La province de Saskatchewan offre des bourses

Le Ministère de la Santé publique de la Saskatchewan offre d'aider les étudiants avec des bourses de \$1,000.00 chacune pour l'année académique 1959-60.

Ces bourses sont offertes aux étudiants en chirurgie dentaire, qui commencent leur quatrième année dans n'importe quelle faculté reconnue, au premier semestre de 1959. On donnera la préférence aux candidats qui résident en Saskatchewan. Le Collège des Chirurgiens-Dentistes de Saskatchewan et le Ministère de la Santé publique choisiront conjointement les candidats.

Les candidats s'engagent à exercer la dentisterie dans la province, durant deux ans après leur graduation, excepté dans les villes de Régina, Saskatoon, Moose Jaw et Prince Albert. Pour commencer, on offre quatre bourses aux étudiants de quatrième année seulement, mais on espère pouvoir élargir ces cadres dans l'avenir. On peut obtenir plus de détails en écrivant au secrétaire, Comité des Bourses, Ministère de la Santé publique, Edifice de la Santé provinciale, Régina.

Décès du "père de la fluoruration"

Le docteur William L. Hutton, 70 ans, membre honoraire de l'Association dentaire canadienne, est mort récemment à Brantford, Ont.

Le docteur Hutton a été chef du service de santé de la ville de Brantford durant près de 40 ans; il avait pris sa retraite, l'automne dernier. Il a joui d'un prestige international comme pionnier dans le contrôle de la diphtérie et la fluoruration de l'eau. C'est grandement grâce à son appui que Brantford a été la première ville canadienne à fluorer l'eau de son aqueduc.

Le docteur Hutton, au cours de la réunion annuelle de l'A.D.C. à Winnipeg, sa ville natale, en 1957, est devenu le premier membre honoraire de l'Association qui n'était pas dentiste. Le docteur K. M. Johnson, alors président de l'A.D.C., en prononçant son éloge, disait: "La vision du docteur Hutton et son désir de servir le bien-être public ont permis à la profession dentaire de réussir les

Congrès national de l'Association dentaire canadienne
au Château Laurier, Ottawa
les 25, 26, 27 et 28 septembre 1960

plus vastes recherches jamais entreprises sur la fluoruration de l'eau d'aqueduc."

Plan d'épargne-retraite de l'A.D.C.

La date limite pour poster les demandes d'adhésion au plan d'épargne-retraite de l'A.D.C. a été changée du 31 décembre au 15 février. Ce changement veut dire qu'il est maintenant possible d'adhérer au plan après avoir calculé son impôt pour l'année. On peut maintenant non seulement d'effectuer des dépôts jusqu'au 15 février 1960 (en comprenant l'impôt de 1959) mais aussi de devenir membre du plan d'épargne-retraite de l'A.D.C. On s'adresse pour tout renseignement au sujet de ce plan d'épargne-retraite au bureau de l'administrateur, 2249 Yonge St., Toronto 7.

Les bills des "denturistes" sont rejetés aux Etats-Unis

Il semble que les efforts des "denturistes" à diverses législatures des Etats-Unis sont terminés pour l'année. Ceux-ci avaient inscrit des projets de loi en Californie, Georgia, Illinois, Michigan, Nevada, Oklahoma et Washington et leurs bills ont tous été défaits.

Relevé sur l'économie de l'exercice dentaire

On espère que les statistiques recueillies au cours de l'enquête que l'A.D.C. a récemment menée auprès des dentistes canadiens pourront être publiées bientôt. Les réponses qui parviennent encore au secrétariat ne peuvent plus servir, puisque la date-limite était le 30 avril 1959.

Le président des Clubs de Service est un dentiste

Le docteur Arthur Schwartz, un dentiste de Winnipeg, vient d'être élu président national de l'Association des Clubs Kinsmen. Cette association est un organisme qui groupe des jeunes gens au nombre de 12,000 dans au-delà de 300 clubs dispersés par tout le Canada.

Le docteur Schwartz fait aussi partie du Comité d'Hygiène dentaire publique de l'Association dentaire canadienne.

Décès du président de l'Association dentaire britannique

Le docteur G. Lotan Venning, qui récemment avait été élu président de l'Association dentaire britannique, est décédé le 14 juillet dernier. Il avait occupé la fonction de président seulement sept mois. Monsieur W. R. Tattersall, qui était président-sortant-charge de l'A.D.B., a accepté l'invitation qu'on lui a faite de reprendre le poste de président jusqu'à la réunion annuelle qui aura lieu à Edimbourg, en juillet 1960. La même chose s'était produite en 1952.

Le tiers de la population canadienne a moins de 15 ans

Le Bureau fédéral de la Statistique rapportait le 1er juin 1959 que 5,821,000 des habitants du Canada, sur un total de 17,442,000, ont moins de 15 ans.

La population totale de notre pays a augmenté de 8.5% depuis le recensement de 1956 et le nombre des enfants de moins de 15 ans de 11.4%. On note dans les provinces que le nombre de ces enfants a atteint un pourcentage qui oscille de 16.9% (Colombie britannique) à 4.2% (Ile du-Prince-Edouard).

Ces constatations peuvent jouer un rôle important dans les projets qu'on est à réaliser pour les soins dentaires des enfants.

Les maladies du coeur sont la cause la plus fréquente des décès

Les maladies du coeur, en 1958, ont été responsables de 53.7% des morts des dentistes aux Etats Unis. Ces statistiques font parti d'un rapport publié l'an dernier par le Bureau des Statistiques et des Recherches économiques de l'Association dentaire américaine sur les causes des décès des dentistes. Les cancers sont la deuxième cause la plus fréquente des décès avec un pourcentage de 18.6%. Ce rapport compile les causes de mortalité des deux tiers des dentistes décédés aux Etats-Unis en 1958 et obtient ses renseignements des services de santé de 36 états. La troisième cause sont les maladies du système nerveux et des organes des sens (10.3%). Le plus grand pourcentage de l'âge des dentistes décédés se place dans les groupes de 80 à 84 ans (15.5%), tandis que le plus bas se groupe dans la catégorie de 45 à 49 ans (1.2%). L'âge des dentistes morts s'établit entre 28 et 98 ans. La moyenne d'âge des décès s'établit à 69.4 ans.

Un syndicat publie un fascicule sur la fluoruration

La Fédération américaine du Travail et le Congrès des Organismes industriels viennent de publier un fascicule traitant de fluoruration. On croit que cette publication pourra servir surtout dans les municipalités où la question de fluoruration est à l'ordre du jour. On peut obtenir de ces fascicules au prix de \$2.50 le cent, en s'adressant aux Activités de Services communautaires de l'AFL-CIO. 9 est 40e Rue, New-York 16, N.Y.

Bottin de 1959 de l'A.D.C.

On peut obtenir des copies du Bottin de 1959 de l'Association dentaire canadienne en s'adressant au Secrétaire de l'Association dentaire canadienne au prix de \$1.00 la copie.

Délibérations 1959 de l'A.D.C.

La copie anglaise des Délibérations de la réunion annuelle de l'A.D.C., qui a été tenue à Halifax en juin, sera postée aux membres d'ici quelques jours.

PAGES EDITORIALES

Les prochaines dix années de la dentisterie

La profession dentaire du Canada a eu l'avantage, au cours du Congrès national qui s'est déroulé à Halifax, en juin dernier, d'entendre quatre confrères éminemment qualifiés dans leur sphère respective exposer leurs idées sur l'avenir de notre profession au cours des dix prochaines années.

Les quatre sujets abordés dans ce colloque étaient les suivants: la recherche; l'exercice dentaire et ses implications socio-économiques et politiques; l'assurance-santé; l'enseignement.

Ces quatre problèmes fondamentaux confèrent à la dentisterie son caractère et influencent profondément son comportement.

Tentons de résumer, dans cet article, l'opinion d'un de ces spécialistes sur une de ces questions, c'est-à-dire la recherche.

Les recherches entreprises jusqu'à maintenant et surtout les résultats obtenus permettent d'espérer qu'avant longtemps le dentiste pourra diagnostiquer et prédire assez exactement le potentiel de susceptibilité d'un enfant à la carie. La compilation et l'interprétation 1) des renseignements obtenus à l'aide d'un test sur l'activité de la carie qui vient d'être mis au point; 2) des mesures des dents; 3) de l'histoire de cas de l'enfant durant l'éruption de ses dents; 4) de son alimentation, etc., permettront de déterminer à l'avance, peu importe les circonstances dans lesquelles il évoluera, le degré de carie dont il souffrira. Et il sera alors facile de mettre en œuvre les méthodes qui s'imposent pour obvier à cet état.

On vient de découvrir un animal, viable en laboratoire, qui souffre de périodontie à un degré comparable à celui des humains. Il sera bientôt possible, en comparant les réactions de cet animal à d'autres de laboratoire qui ne souffrent pas de leurs gencives, de déterminer la cause de ces maladies périodontaires. Sont-elles des pathologies infectieuses? Des maladies à "collagène", qui affectent aussi les autres articulations de l'organisme? Des lésions de la dent, de l'os, du tissu fibreux ou une combinaison de lésions de ces trois tissus? — On le saura probablement d'ici dix ans. Nous avancerons davantage au cours de la prochaine décennie vers la solution de ce problème complexe des malocclusions. Les recherches intenses entreprises de nos jours sur la croissance de l'enfant permettent d'espérer de reconnaître à leurs premières manifestations les malocclusions et faciliter ainsi leur traitements.

Les recherches dentaires pourront aussi aider les progrès de la science humaine en général. On sait actuellement que des lésions occasionnées dans les dents par un

trouble constitutionnel demeurent visibles durant toute l'existence de la dent. On ne peut dire la même chose des autres tissus du corps. Ainsi un interniste, à l'examen d'une dent, pourra se rendre compte de l'époque précise de la manifestation du trouble métabolique et organiser son traitement en conséquence. Ensuite, les dents primaires, parce que leur composition chimique demeure constante, peuvent servir à déterminer la dose de substances radio-actives à laquelle un enfant a été exposé durant l'élaboration de ses dents.

Les recherches dentaires au Canada iront en s'accroissant, si on compare le nombre des chercheurs qualifiés de 1949 et celui de 1959: il s'est décuplé.

Toutes les facultés dentaires ont des programmes de recherches et les préposés à l'hygiène dentaire publique y participent.

Les argents disponibles pour les recherches augmentent d'année en année et le nombre des chercheurs s'accroît aussi. Si, un jour, le domaine des recherches atteint une saturation au point de vue quantité, il n'a pas de limite au point de vue qualité.

Les trois principales maladies qui assaillent le dentiste, c.-à-d. la carie, la périodontie et les malocclusions sont à la veille d'être connues à fond, surtout les deux premières. Il y a cependant un écart considérable entre les découvertes scientifiques et leur application dans les cabinets dentaires, surtout dans le domaine de la prévention. Il faut aussi mentionner, quand on parle de recherches, un autre domaine où des mises au point mécaniques peuvent influencer l'exercice journalier du dentiste. Il en est ainsi des appareils de meulage à super-grande vitesse, qui exerceront une grande répercussion sur l'ensemble des traitements de restauration exécutés par le dentiste.

Gérard de Montigny

Société dentaire de Montréal

La Société dentaire de Montréal a élu, à son assemblée générale, l'exécutif suivant, prés.: Dr Marc Thibault; 1er vice-prés.: Dr Jacques Bélanger; 2e vice-prés.: Dr Clarence Bouillon; trés.: Dr Paul Manseau; sec.: Dr Claude Vachon; aviseur: Dr J. P. Lussier; assis.-sec.: Dr Jean Guimond, bibliothécaire: Dr F. Terriault; conseillers: Dr R. Dupont, Dr A. Dalpé, Dr J. Fiset, Dr R. Grégoire.

Le président, le Dr Marc Thibault, prévoit pour l'année un programme scientifique très élaboré et plusieurs réunions sociales sont déjà en préparation.

Le tournoi de golf annuel de la Société a été encore cette année un grand succès par le nombre des participants tant chez les messieurs que chez les dames.

Le Dr Remy Décary s'est mérité le Trophée du Dépôt Dentaire Ltée avec un score brut de 76.

Le Dr Robert Lambert avec le meilleur

score net de 82, gagne le Trophée du Collège des Chirurgiens-Dentistes de la province.

Mme Germain Duhamel gagne le Trophée "Brisson et Fils" pour le meilleur pointage chez les dames.

Le Dr Antoine Raymond avec un pointage de 95 s'est mérité le trophée donné par les professeurs de l'Université de Montréal.

Cette année, les trois sociétés dentaires de Montréal se réunissent en association conjointe pour présenter deux conférenciers de grande renommée. La lère de ces réunions se tiendra au Reine Elizabeth le 23 nov. à 3 heures et le conférencier sera le Dr. Arthur H. Morrison de New-York. La 2e réunion aura lieu un peu plus tard en mars.

Le 20 octobre, le Dr Philip Ament a été l'invité de la Société à sa première assemblée régulière de la saison et a présenté une conférence sur "Le vrai et le faux de l'hypnose."

Congrès de l'Association dentaire de la province de Québec
au Château Frontenac, à Québec
les 26, 27 et 28 mai 1960

The Canadian Dental Association

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JOURNAL

I Observe*

A. C. LEWIS, D. Paed., Toronto, Ontario

Two weeks ago it was my great privilege to attend 'Mediscope', the first and largest health exposition ever attempted on this continent. It was sponsored by the Ontario Medical Association with the co-operation of many outside the profession. It covered the role of the physician in every phase of healing and preventive medicine, as well as the story of those in other professions allied to medicine, such as the Canadian Dental Association,

Pharmacists, Victorian Order of Nurses, Registered Nurses' Association of Ontario, St. John Ambulance, Ontario Department of Health, Ontario Hospital Commission, National Health and Welfare.

The exposition was open twelve hours a day for a full week and was attended daily by vast throngs of people. The total attendance, mounting to more than 150,000, is convincing evidence of the great interest of the public in matters of health. Members of the allied professions manned the exhibits throughout the week. The

*Address to the Halifax County Dental Society, October 28, 1959.

personnel was drawn largely from Metropolitan Toronto, but many from more remote areas also gave freely of their time. The exhibits, extending a full third of a mile, all designed to promote public health in all its aspects, were so graphically displayed that the average layman could gain a fair general knowledge of the working of the human body. There was a most interesting display of the history of medicine over the past hundred years. One of the most popular exhibits was the Birth of a Baby which attracted long queues, at all times making their way slowly past. The Cancer Cyclorama was also very popular and visitors went away with diminished fears of the dread disease. Your profession must indeed have been proud of the display, operated by dentists, which demonstrated the health aspects of the oral cavity. The over-all success of the venture, I believe, greatly surpassed the highest hopes of the sponsors.

I have dwelt at some length on this exposition because it represented the progress of health services in all fields, especially in recent years. I am more familiar, of course, with the great strides made by your profession during the present century, because of my participation in the work of the Survey Committee of the Council on Dental Education of the C.D.A. You are all well aware of the work of that committee. The final report of the six-year study was released to the profession in 1956, later to the public, and is recorded in the Transactions of the Canadian Dental Association of that year.

Extraction of diseased teeth has been practised everywhere from time immemorial. The ancient Hindus classed tooth-drawers with hair-cutters, nail-trimmers and blood-letters. Hippocrates wrote of dental diseases and their treatment four centuries before Christ. The serious study of dentistry on this continent began in Baltimore in 1840 when the first dental school received its charter as an independent institution. The first course was of four-month duration and the graduates received the D.D.S. degree from the American College of Dental Surgeons.

In Canada the first formal approach to dental education was through the Royal College of Dental Surgeons of Ontario which established a School of Dentistry in 1875. The Nova Scotia Dental Association established the Maritime Dental College in 1908 which was controlled by the Provincial Dental Board. Four years later Dalhousie University took the College into its fold and thus became the first Canadian university to establish a Faculty of Dentistry. It operated in the Forrest Building for fifty years and now has its own beautiful modern structure located in the heart of the campus with facilities to double the previous output. Besides the generous financial support of the Atlantic Community it should be said here that support of the Kellogg Foundation assisted materially.

I do not want to weary you with too much history. I should rather bring you up quickly to the present and then take a look toward the future. I am here tonight because the Council on Dental Education, not willing to rest on approval of the dental schools through the work of the Survey Committee, resolved to have the schools visited again, but for a different or additional purpose. The Survey Committee was not responsible for teaching methods but rather for such areas as admission requirements, curriculum, financial support, physical facilities and other matters set down in the final report of 1956. The Council has done me the honour of inviting me to revisit the schools in order to observe the teaching processes with a view to improving the methods of instruction. I accepted on condition that no written report should be made of my visits. I would enter the classrooms, laboratories, and clinics and use my long experience in teacher education to assist those who had not the opportunity of taking courses in methodology. I have already visited McGill and Montreal Universities and managed to conduct myself in such a manner as to at least evade forcible ejection. Nor have I observed any signs of resentment after the three days I have spent here at Dalhousie. I would

like to say now that very fine progress is under way. The Faculty is certainly not resting on the excellent achievements of the past but is constantly on the alert to make dental education in Eastern Canada equal to any on the continent.

What can I say now by way of a forward look? I hesitate to say anything as a layman about the practice of dentistry tomorrow for fear of revealing to this professional audience my colossal ignorance of the whole field. Perhaps the best thing for me to do would be to refer you to the first article in the September 1959 issue of the *Journal of the Canadian Dental Association*, which is entitled "Dentistry During the Next Ten Years." This article is the report of a discussion by a panel of experts consisting of Moderator: Dr. Don W. Gullett, C.D.A., Panelists: Dean J. D. McLean, Dalhousie; Dr. P. G. Anderson, Toronto; Dr. K. J. Paynter, Toronto; Dr. H. K. Brown, Dept. of National Health and Welfare, Ottawa.

Each panelist confined his remarks to his own special field, and I concluded after a careful survey of the content that I could say little that was new which would add to this comprehensive forward look. I shall venture however to take the role of an outsider looking in.

For more than a quarter of a century there was no expansion of facilities for dental education in Canada, and this during a period of rapid growth in population. The new dental centre on Dalhousie campus (with double the former capacity) appeared as an oasis on a desert to provide some relief for overworked dentistry in Eastern Canada. The new building on the Toronto campus which opened in September of this year has provided facilities to almost double the output of dentists from the University of Toronto. The University of Manitoba has established a Faculty of Dentistry to meet the needs of central Canada more adequately. There is still need for a dental school in the far west, and I should not be surprised to see the early establishment of such on the campus of the University of British Columbia.

Coming to the curriculum as I see it, there is no great emergency for any major operation on the content of study courses in dentistry. Dental education is firmly entrenched with its four-year clinical program following a minimum of two years of higher education beyond junior matriculation level. The continuing effort to improve the curriculum keeps pace with the times and with the advancement in science. And now the stress is rightly on the improvement of methods of instruction. Furthermore, staff members, with financial assistance from the university or foundation find it advantageous to take courses of graduate study in their special field. This is a trend that will increase in the years ahead.

Is it too much to expect that there will be a National Board of Dental Examiners which will replace Provincial Boards? This is a question which I cannot answer.

So far I have said nothing of the product of the school, the practising dentist, both general and specialist, who serves his community day in and day out at his chair and under considerable pressure. It seems to me that there are two problems for him to face.

First, he must keep himself abreast of the latest trends in the practice of dentistry. There are new facts and principles discovered constantly, and unless the practitioner devises ways and means of refreshing himself he will soon get out of date. New discoveries and techniques are available through dental literature, particularly through the dental journals of Canada and the United States, for which the dentist should subscribe. Another valuable source of information is found in short refresher courses which are offered by most of the schools. Perhaps the most professional benefit is obtained by fraternizing with your co-workers in meetings of your Dental Society.

Another obligation of the dentist is to take his place as a citizen in a democratic society where community organization is of the people, by the people and for the people. Does dental education prepare the

graduate to take his fair share of the activities of his community or does it set him apart from society in the smaller centres? I leave that for your contemplation.

We have a world divided into two powerful camps — the communist world and the free world. The uncommitted millions in the neutral world, Africa and Asia, could swing the tide to one camp or the other. Which way of life will they choose? Today we are part of this fantastic struggle. All the collective knowledge of the free world must be harnessed if we are to preserve our way of life. The Soviets educate their citizens to a pattern shaped to serve the interests of the state, whereas our system is designed to educate our young people to help them excel in their best fields of endeavour as free persons. In Russia the state dictates the type of education which the individual will pursue, here the choice belongs to the individual. In 1940 when Hitler as dictator of Germany threw his Air Force at Britain, Winston Churchill said "Let us therefore brace ourselves to our duties, and so bear ourselves that, if the British Empire and its Commonwealth last for a thousand years, men will say: This was their finest hour."

In a democracy, there must be a balance between an individual's personal ambitions and his social duties or obligations. It is reasonable to assume that leadership can best be found among the educated group. It is a fine thing to extend educational privilege, but the first loyalty of a university must be to the maintenance of standards — standards of scholarship, of maturity and of character; and the last of these is not the least. Dr. Hutchins of the Ford Foundation said upon one occasion that, "All education is wasted if moral education fails. The crisis of the contemporary world may be summed up in the proposition that our knowledge now exceeds our capacity to use it for good. The solution is not to reduce knowledge or to halt the progress of science, but to make moral education equal to it."

Our difficulty then is not to get more knowledge or more goods but to do the right thing with them when we get them. Education is no simple process of spoon-feeding, no easy absorption of useful and interesting information, still less the memorization of facts frequently neither useful nor interesting and promptly to be forgotten when you have fooled the examiners for the last time. Your university has failed in its purpose with you if it has trained you merely to find facts and to manipulate the tools of your profession skilfully, but not to evaluate these, to discriminate between the essential and the non-essential, between the permanent and the fleeting, between the true and the false. It is the hope of the university that its graduates will have been given the basic and fundamental training which permits them to think things through to a conclusion, to meet the requirements of time and circumstance, and to lead them almost by instinct to undertake the things that all should do. It is further hoped that its graduates have learned the value of persistence in the face of difficulty, thoroughness in workmanship, honesty of effort, willingness to cooperate, self-reliance to stand alone, and that they acquired a good measure of critical judgment.

You know something of a world at war, and now of a world where peace is raging. Are you willing to make the sacrifices necessary to escape the recurrence of global turmoil, if not warfare? Under the impact of war, people learned to cooperate and even to be generous in the promotion of common purposes. That cooperation and generosity is still of prime importance and urgency. If we relapse into selfishness and greed when the common danger has passed, we invite impending disaster if not annihilation. Everyone who can think clearly about our common problems, and who can make the voice of human kindness prevail, has not only a golden opportunity but also a compelling obligation to render a service to his community and to mankind, a service of inestimable value in realizing the ideals of

a better world. John Ruskin once said that:

"Education does not mean teaching people to know what they do not know; it means teaching them to behave as they do not behave."

Your education has placed you in the ranks of a noble profession. I hope it has also placed you in the ranks of those who embrace the duties and obligations which I have tried to outline.

Dr. Lawrence G. Detherick, U. S. Commissioner of Education, in a recent ad-

dress to the Chicago Teachers' Union closed with the following:

"More than anything else, our country needs what only a universal system of quality education can turn out — men and women of dedication and courage and moral fortitude; men and women who love and believe in the ideals of America and who are ready to work and sacrifice to keep secure and magnify our freedoms for ourselves, for our children and for our children's children." — (The American Teacher, October 1959) And I can do no better than to end on this high note.

"Thiokol" A Rubber Base Impression Material

for Restorative Technics

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Indirect technics in the restorative field of clinical dentistry have for many years been hampered by the inadequate characteristics of the impression materials with which we were forced to work. Compound is not elastic, wax is grossly inaccurate, the hydrocolloids both reversible and irreversible are subject to changing

environmental conditions and cannot be satisfactorily plated with metals.

The silicones, promising materials for future development is at present subject to limited shelf life; a limited amount of catalyst is difficult to incorporate smoothly throughout the mix. Superior handling qualities have popularized this material but it still gives variable results and is not at all satisfactory for metal plating technics, and the stone dies are frequently marred by the appearance of bubbles.

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Thiokol, a synthetic rubber developed during the war and at present used primarily as the solid fuel in rocket propulsion has proved to be an excellent impression material that encompasses the majority of the properties we most desire when working in the field of Restorative Dentistry. The odor which was heavy and sulphurous has been greatly improved since it was introduced to the profession and while the handling characteristics do not in all ways recommend themselves, an orderly procedure can virtually eliminate the shortcomings that beset the operator in handling this material.

An accurate final result is the test of success in the restorative field. Regardless of what technic is used the orderly co-ordination of effort between assistant and clinician is the key to this achievement and in the light of the advantages offered by the Thiokols, it should be obvious that the time necessary to develop this co-operation is well spent.

The advantages are many and to comment upon them may be in order.

ACCURACY

It has been well established that the material is highly accurate. Skinner¹ and more recently Phillips² and others have published the results of a great deal of scientific study relative to the accuracy of this material, concluding "it is apparent that the accuracy of the rubber base materials is in the same realm as the reversible hydrocolloids and that this class of impression material may be considered satisfactory for indirect technics of a complex and meticulous nature".³

The elasticity and tough physical characteristics of the Thiokols together with the scientific and clinical accuracy of the material combine to lend a desirable superiority over its predecessors in many practical ways. Loss of impression material beyond the gingival margin has un-

doubtedly been the experience of the vast majority of operators in attempting to gain impression for restorations of the shoulder type, e.g. those for Porcelain Jacket crowns or to a lesser degree those for large MOD inlays. The combination of toughness and elasticity enjoyed with the Thiokols eliminates this shortcoming and the impression of the sub-gingival area is returned in detail.

The withdrawal of proximal impressions in earlier materials from markedly "bell crowned" teeth has led to distortions of many types. Sharp margins in the most convex areas frequently cut and fracture or drag and distort depending upon the technic employed. This too, can be eliminated particularly if care is taken to assure ample setting time for a Thiokol.⁴ One is willing to spend the additional time and to repeat intricate technics when this is necessary to obtain accuracy. A well organized plan can however eliminate this waste in time and effort when the rubbers are employed.

DIE HARDNESS

Detail in the final product of indirect technics is largely dependent upon the stability of the margins of the die upon which the work has been developed. The Thiokols return such a stone die better than any of the other elastic impression materials Fig. 1. Finishing wax patterns to the margins of stone dies has always been subject to the abrasion of the stone and the loss of peripheral detail in the resultant casting and while this problem has not been eliminated the additional hardness of stone dies from Thiokol impressions does not materially reduce the problem.

For the enthusiast who likes to do his work on electro-plated dies, the results are even more encouraging, for the Thiokols return a silver plated die of extreme accuracy and detail and are a real thrill to work upon.²



FIGURE 1

Stone dies in stone model of contrasting colour.



FIGURE 2

Impression—cleaned, dried, covered with silver powder, wire attached and ready to suspend from cathode.

This excellent result in silver has facilitated the development of dies for porcelain jacket and porcelain inlay construction to a remarkable degree. It has eliminated the hazardous procedure of carrying metal bands beyond the shoulders of the preparations and has eliminated the need for the development of copings and the tedium of producing and finishing of the conventional amalgam dies which are not only dirty to handle but are inferior to the silver plated die in accuracy. The silver plating technic does with no extra effort return a model with dies of silver and proximating teeth of the same material and all in an exact relationship both laterally and vertically.

A pleasant point to make at this juncture is that whereas the electro plated die of the past has always represented a trial of the technical skill of the operator, the silver plated die developed from the Thiokol impression is simplicity carried to the extreme. In contrast to the task of introducing binders and graphite and mounting the impression as with the Cu plating technics; with a clean Thiokol impression the powdered silver is applied with a camel's hair brush and the impres-

sion is blown out with a stream of air. A bur hole through which a copper wire is strung and from which the impression is suspended, serves as the connection to the (Cathode) Fig. 2. It is more simple than pouring a stone die and once the plating is laid down, it can be forwarded to a laboratory for completion without fear of distortion.

PREPARATION

The preparation of the Thiokols demands a minimum of specialized equipment. The success in the employment of this material, as the success in nearly any particular technic in dentistry, depends mostly upon organization within the individual dental office: Order—the simple and basic practice of having the materials laid out in an organized and convenient manner and a clear knowledge of the sequence of steps in the role played by both assistant and clinician are paramount.^{3,9}



FIGURE 3

Lay-out for syringe type material.



FIGURE 4

Lay-out for base material showing l. to r. plastic stock tray, plastic custom made tray, metal tray. All lined with rubber cement.

Two viscosities of the material are used, the thinner is prepared to be used from a syringe, the thicker is used to fill the tray. The dentist will be called upon to remove the retraction material, dry the teeth, place cotton rolls and introduce the syringe material. It is suggested that he mix the thin type. The tray material is thicker and consequently slower to mix and place within the tray itself. The assistant will therefore carry out this chore and the difference in the time required is used by the dentist in filling the syringe, removing the gingival retraction, drying excess moisture with cotton and introducing the more viscous material into the details of the preparation. By the time this has been done, the assistant should have the tray material in the tray and have it held or placed for the convenient transfer by the dentist to the field to be impressed.

In order to perform this sequence with the smooth continuity of effort desired, it is suggested that the materials and equipment be laid out to assist rather than to confuse and hinder.

Convenient to the operator is (A) Mixing pad, (B) Spatula, (C) Syringe type Thiokol and Accelerator and (D) Dappen glass or papercone with which to fill the

(E) Syringe. Fig. 3. Convenient to the assistant is the tray (best prepared in a quick curing acrylic using the study model. To obtain the required 1.5 millimeter of space over the impression area, a single thickness of base plate wax is used as a spacer.) A stock tray, either one of metal or plastic if it has proper stops, will serve well although it has the disadvantage of requiring an excess of material and when seated lacks the stability of a quick curing acrylic tray, custom made for the case. One must emphasize that regardless of type of material, the tray must have two characteristics (a) be non-yielding, (b) take and retain the cementing medium.

The tray regardless of type has been previously lined with rubber cement which has been allowed to set a minimum of ten minutes. A ²paper pad and ³spatula and a ⁴tray type Thiokol complete the necessary equipment at hand for the assistant Fig. 4.

When mixing begins, an interval timer is set for ten minutes and is intended to indicate the minimum time required for the material to reach a satisfactory set.

The mixing procedures will, if not controlled, lead to the hazards with which the use of this material is beset. It is



FIGURE 5

Retraction kit—made in Canada and easily obtained.



FIGURE 6

Area prepared for two porcelain jacket crowns.

therefore fitting that a few points of technique that have to do with the mixing procedures, be emphasized.

- 1 Because of the heavy physical characteristics of the material — the paper pad should be sealed on all four sides or alternately the paper should be thick enough and hard enough to withstand the mixing procedures without folding upon itself. The ordinary paper mixing pad will not do.
 - 2 The spatula blade should always be covered with the PbO_2 (brown material) on the pad before mixing is begun.
 - 3 Setting depends on a uniform spreading of the PbO_2 throughout the polymer and can best be judged by the uniformly smooth color of the mix. Streaks indicate that much of the material has not been brought into physical relationship and the speed of set is materially reduced.
- Introducing the material into the mouth.

The retraction cord moistened with 8% Racemic Adrenalin HCl (Fig. 5) should be in place for a full seven minutes before the mixing is begun. This will allow eight minutes of retraction before it is removed and the areas dried with cotton pellets. These pellets are gently touched to the areas to adequately remove any excess moisture. The buccal of the upper or the buccal and lingual of the lower are isolated with cotton rolls, and the saliva ejector is in place.

IMPRESSION TAKING

Impression taking is begun by introducing the syringe material to the deepest and most distal portion of the preparation Fig. 6. This is built up slowly from the gingival towards the occlusal making certain that all of the detail in the cervical area is thoroughly covered. The syringe is then moved forward, the plunger being under constant pressure so that there is an even and continuous flow of the material from the time impression taking is begun until the time at which all prepared portions have been amply covered with Thiokol. The syringe is then moved over onto some portion of the



FIGURE 7

Syringe material in place. Note—Terminal point is on the central at a distance from the prepared area.

dentition at a greater or lesser distance from the last preparation where the nozzle tip is separated from the impression material itself Fig. 7. This last point is one of considerable importance because of the elasticity of the material. If an attempt is made to withdraw the syringe while it is still continuous with material covering part of the prepared areas, it will lift the Thiokol from these areas, and a void or bubble will be created in the ultimate impression. The tray material is now carried into position over this area and allowed to set under modest pressure for roughly two minutes, at which time it is tacky enough to remain in position by itself and without pressure. The impression is removed at the ten minute mark by the interval timer and after cleansing, is ready either to be poured in a die stone or to be electro-plated. There are many references to ways and means of pouring models of this type in stone, the system is almost identical with that used in hydrocolloids. For that reason a description of the electro-plating technic used with a silver cyanide bath is described on this occasion.

ELECTRO FORMING WITH SILVER

Materials	Equipment
1. Silver anode	1. Hanau Junior
2. Telephone wire	2. Liquid (cyanide bath) Kerr
3. Powdered silver	3. Brush—camel hair
	4. #6 Round Burr

One must be certain before commencing that the impression is completely clean and dry as either debris or moisture will result in surface error. This can best be done by using a fifty-fifty mix of liquid soap and H_2O —rinse with clear water and air dry.

1. The impression is pierced with a #6 or #8 round burr, a single strand of the copper wire is threaded through the hole and wound tightly.
2. Paint areas to be silver plated with the metalizer (silver powder) and be assured that the metalizer contacts the copper wire. Air blow any excess from the surface of the impression material. Correct any deficiencies.
3. Connect the silver bar to the positive pole of the electroplater.
4. Immerse the impression in the solution and fasten the free end of the copper wire to the cathode.
5. Start on a low current and plate for 30 minutes.
6. Remove and check for voids—correct.
7. Replace and plate for 6 hours—overnight.
8. Remove, wash and dry.
9. Pour dies and add pins—allow to set.
10. Add separator and pour model—allow to set to height short of dowel pin tips.
11. Separate and free the dies (possibly using a jeweler's saw) and tap out dies.

This technic produces a hard, bright die excellent for restorative effort of the most exacting order. Fig. 8 and Fig. 9.



FIGURE 8

Silver dies tapped out of stone model.

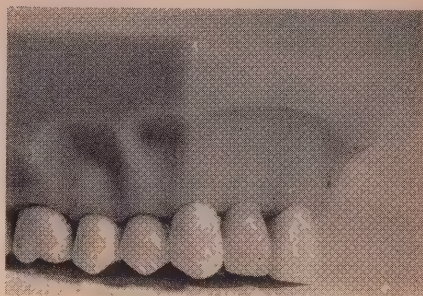


FIGURE 9

Finished porcelain jackets.

POINTS TO REMEMBER

1. Be certain to fill any spaces (1) under bridge (2) large interproximal areas etc. with utility wax before impression taking.
2. The tissue should be anaesthetised in the areas to be impressed.
3. Compound is *not* used in conjunction with the Thiokol impression materials.
4. The adhesive must be in the tray for at least ten minutes prior to the impression material.
5. Retraction is necessary in most cases—cord pressure supplemented with 8% Racemic Adrenalin HCl.
6. Cover Zn Oxide—eugenol bases with a thin film of cocoa butter.
7. Leave a bead of material to set on the tip of the syringe.
8. Wash and air dry the impression before pouring.
9. Syringe type, regular and heavy exhibit, comparable accuracy and if for some reason the operator wishes to do all his work with one type, it can be done.
10. Start by smearing the spatula blade with the brown (accelerator) material before commencing the mix.

11. Be *certain* that the mix is uniformly smooth and without lines before attempting to use the material for impression taking.

This paper is meant to assist the practitioner in the technical steps necessary to the successful use of the Thiokol impression materials.

A suggested bibliography of material embracing research findings and technical procedures is offered for your further study on the Thiokol impression materials.

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Traumatic Injury to Unerupted Incisors

Following a Blow to the Primary Teeth

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Although traumatic injury to unerupted incisors following a blow to the primary teeth is not a common occurrence, the condition is not extremely rare. A search through the literature under the headings "Fractured Incisors", "Dens in Dente", "Dilaceration", and "Anomalies", revealed that at least seven textbooks^(1,2,4,5,6,10,14) and a number of periodicals^(8,13) have made reference to this phenomenon. This paper will deal with several cases which were presented to the Children's Clinic of the Faculty of Dentistry, University of Alberta within the last year. One of these cases was carefully followed by one of us (Florence) for a period of 6 years.

Case One

At age 2 the child received a blow from a swing at which time the right upper primary incisor was completely dislodged and never recovered. The adjacent primary teeth were also loosened but re-

mained in place. A radiograph taken at the time can be seen in Fig. 1(a). This case was followed with annual radiographs and as can be seen in Fig. 1 (B,C,D,E,F), a rather curious radiopacity began to develop adjacent to the crown. As time elapsed this tooth failed to erupt and in addition hypoplasia was noted on the adjacent permanent teeth which did not occur on the mandibular incisors or on the permanent molars which were developing at about the same time.

TREATMENT

It was decided that an attempt should be made to uncover the unerupted tooth with the hope of bringing it into occlusion as has been suggested by Holland.⁹ However when the tooth was exposed the crown was noted to be quite hypoplastic and stained brown. In addition the root was forming at approximately 90° to the crown. This had been suspected from the lateral radiograph (Fig. 2) taken of the area, prior to the operation. Because of these two reasons the tooth was removed and sections were made for microscopic study.

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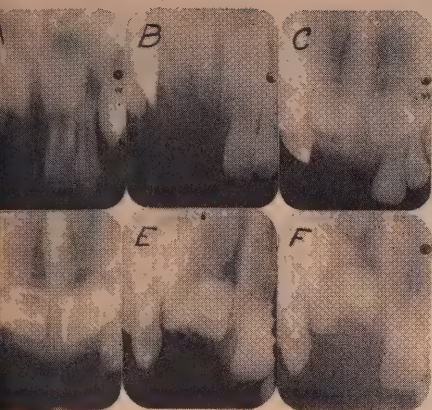


FIGURE 1

Case One — Radiograms cover a six year period.



FIGURE 2

Lateral view of case one showing the malformed unerupted right central incisor lying above the normal left central incisor.



A



B



C

FIGURE 3

- A. Incisor view of malformed $\overline{1}$
- B. Lateral—canine view showing labial angulation of malformed $\overline{1}$
- C. Apical changes.

Case Two

In this case the mandibular right central incisor had pronounced labial angulation of the crown that can be seen in Fig.

3(B). At age $2\frac{1}{2}$ $\frac{A|B}{A|}$ were damaged

when the child was accidentally dropped on a stairway when being carried by an older sibling. A| was partially dislodged from its socket. This tooth was repositioned without auxiliary stabilization by the family dentist and as far as could be learned from the history was shed at about age 6 when $\overline{1}$ began to erupt. It was interesting to note a minor hypoplastic defect on $\overline{2}$ which can be seen in Fig. 3(A). A similar defect was seen in the radiograph of $\overline{2}$ which is not included in this paper. These defects did not appear on any other teeth in the mouth.

TREATMENT

An attempt has been made to salvage this tooth. One year ago the incisal $\frac{1}{3}$



FIGURE 4

Low power micrograph of case one, a maxillary incisor. The mature enamel has been lost due to decalcification of the specimen. Some immature enamel has been retained.

of the crown was ground off and an open face stainless steel crown was fitted to the tooth. There was no apparent exposure of the pulp during preparation of this tooth and a layer of calcium hydroxide was placed over the dentine before the crown was cemented. However in comparison, apical changes have begun to take place. A possible explanation for this is found in the discussion.

HISTOPATHOLOGY OF CASE ONE

Fig. 4 is a low power photomicrograph of one of fifty sections made from the decalcified specimen and Fig. 5 is a composite drawing showing the arrangement of the various types of tissue. The numerals in Fig. 5 represent the figure numbers of high power photomicrographs taken of the circled areas.

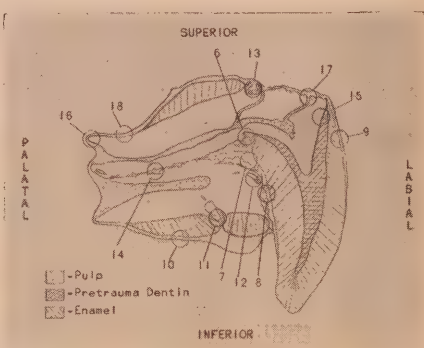


FIGURE 5

Composite drawing of case one showing the arrangement of the tissue. The numbered areas appear in high power photomicrographs as Figures 6 to 18.

ENAMEL

1. *Pre trauma amelogenesis.*

Mature enamel is found in the incisal portion of that part of the crown formed before the traumatic experience. The apical portions of this enamel are still in the matrix stage, maturation apparently having ceased at the time of the accident. This specimen was removed when the child was 8 years old and normally all of this enamel would have undergone maturation by the time the child was 3 or 4 years of age.

The palatal surface of this enamel is covered by a cuticle which stains dark blue with hematoxylin. In some areas cementum (Fig. 6 and 8) or connective tissue infiltrated with lymphocytes (Fig. 7) abut the cuticle. The labial surface of the enamel matrix presents a saw

toothed edge, (Fig. 9) covered by a homogeneous material which appears to have undergone calcification in some areas.

2. *Post trauma amelogenesis.*

Some mature post trauma enamel is found on the inferior and superior surfaces of the section and presumably would form a cuff surrounding the displaced horizontal portion of the specimen. The bulk of this cuff is in the matrix stage and is covered by ameloblasts similar to those seen in Fig. 10.

Enamel matrix can also be seen in several small areas in the post trauma tissue. Some of these resemble small crowns but are in fact invaginations of enamel forming tissue similar in many respects to dens in dente formations (Fig. 11, 12, 13). The central tissue and

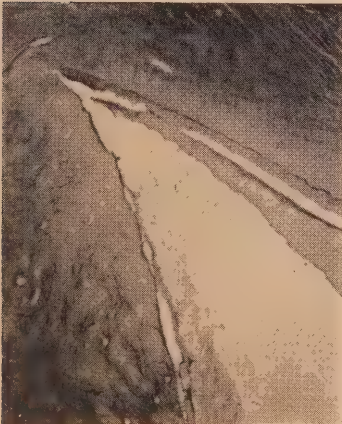


FIGURE 6

The superior palatal margin of pre trauma enamel and dentine. The enamel matrix is covered with cementum.

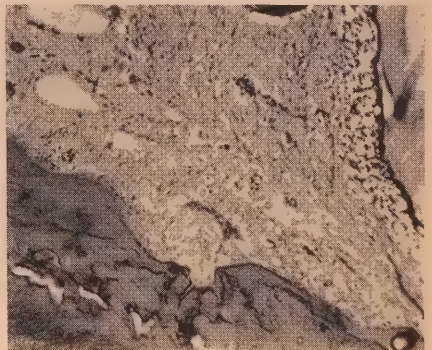


FIGURE 7

Connective tissue between the two main root-like portions of the specimen. The enamel matrix, on the right, is covered by a cuticle and inflammatory connective tissue in this area.



FIGURE 8

Pre Trauma enamel matrix (at the right) is covered with cementum. Enamel matrix which appears as a clear area has been laid down on the post trauma dentine at the left. There are many small clear enameloid globules in this area.

ameloblasts are degenerate. The prismatic pattern of the enamel matrix, which has been laid down on the dentin at the sides, can be seen in Fig. 11. In Fig. 13 the central portion is filled with connective tissue in which a cementumlike material has been laid down.

Enameloid globules and strands of epithelial cells are present in the soft tissue dividing the two major rootlike portions of the specimen. (Fig. 14).

DENTIN

1. Pre trauma dentinogenesis.

Regular dentin formed before the accident is represented as a cross hatched area in Fig. 5.

2. Post trauma dentinogenesis.

The junction of the pre trauma and post trauma dentin is marked by a band of varying thickness representing the uncalcified predentin at the time of the accident (Fig. 15). On the labial the direction of the new tubules turns back sharply toward the incisal indicating that the upward movement of the tooth did not pull the odontoblasts away from the dentin but simply reoriented them incisally. Some dentinal tubules can be traced through the old predentin layer into the disorganized new dentin laid down on top of it. In most areas complete recovery seems to have taken place since the bulk of the post trauma dentin is quite regular.



FIGURE 9

Surface of labial pre trauma enamel matrix. The jagged edge represents arrested rod formation. A cementumlike material has been laid down on the uncompleted rod ends.

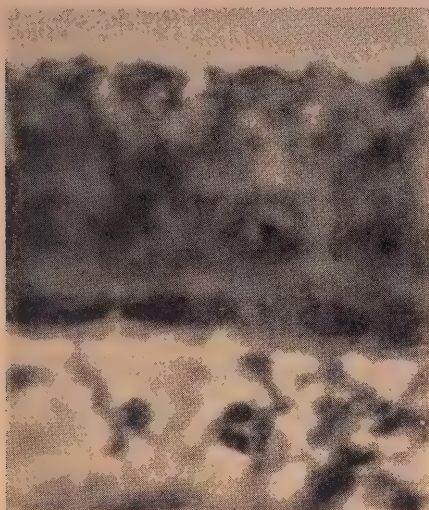


FIGURE 10

Ameloblasts and stratum intermedium on the surface of Post Trauma enamel (clear area at top).

CEMENTUM

A very thin layer of acellular cementum has been laid down in some areas on the dentin near the main palatal foramina. An epithelial root sheath which is almost unbroken can be seen peripherally to the cementum or to the dentin where no cementum is present. It extends around the palatal end and forms an epithelial diaphragm. (Fig. 16).

Cellular cementum or bonelike material is found in several areas. In Fig. 6 it covers part of the pre trauma enamel matrix. In Fig. 8 it surrounds the enameloid globules and covers the dentin of both pseudoroots. A calcified material also covers the gap between the pre trauma enamel and the post trauma enamel on the superior surface. (Fig. 17).



FIGURE 11

Invagination of enamel forming tissue. Enamel matrix has been laid down on the dentine walls. The central core is degenerate in appearance.

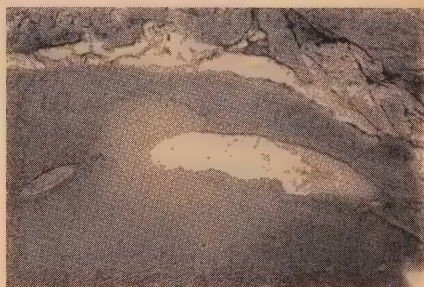


FIGURE 12

A small invagination of enamel forming tissue in the centre of the photograph. At the right, enamel matrix has been laid down on the dentine walls. The central tissue (clear area in centre) penetrates far down into the dentine to the left. Calcification of the dentine is abnormal near the base of the invagination.

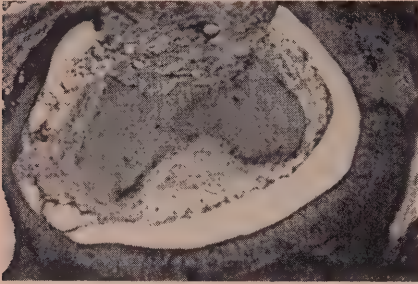


FIGURE 13

Enamel invagination of superior surface. Enameloid globules and prismatic enamel (clear areas) have been laid down on the dentine walls. Central portion contains poorly calcified cementumlike material. On the right is part of one of the superior foramina.

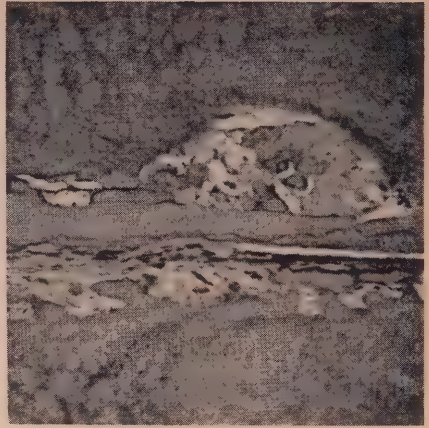


FIGURE 14

Epithelial strands, cementum and enameloid globules (clear areas) between the major pseudo roots.



FIGURE 15

Junction of the pre trauma dentine (on the right) and post trauma dentine on the left.

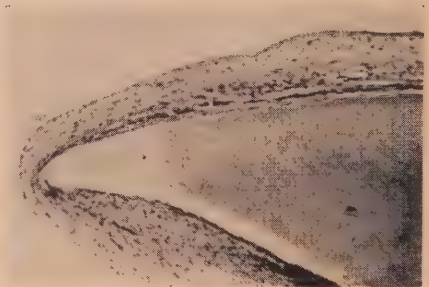


FIGURE 16

Palatal foramen. Showing epithelial root sheath and epithelial diaphragm.

PULP

The pulp chamber has formed as two independent large canals with several small branches. Two of these branches extend out through the dentin and open on the superior surface of the specimen in the area devoid of enamel. They are analogous to accessory formamina since blood vessels and myelinated nerve fibers appear to enter the pulp chamber via this route (Fig. 17). Nerve fibers can also be seen entering the palatal openings of the main canals.

The pulp tissue is normal in appearance

except in an area superior to the palatal edge of the pre trauma enamel and dentin. Here the pulp appears to be compressed and the pulp chamber is almost obstructed by calcified material. This possibly represents an area where tissue was crushed by the upward movement of the pre trauma crown at the time of the accident.

Two channels which dip into the dentin toward the inferior pulp chamber appear to contain not blood vessels and nerves, but epithelial tissue (Fig. 12). These seem to be related to the small enamel invaginations and probably represents further attempts at gemination. They do not link up with the pulp chamber but end blindly in the dentin.



FIGURE 17

Foramina joining pulp and superior surface. It contains many nerve fibres. Cementumlike material covers the superior surface of the dentine.

DENTAL SAC

The connective tissue covering the superior surface of the specimen is unique in that it contains dense accumulations of hemosiderin crystals, evidence of former hemorrhage in this area (Fig. 18).

DISCUSSION

The appearance of the gross specimen in Case one suggests that the incisal half of the crown was displaced palatally approximately 90 degrees. This appears to be the most common displacement pattern for maxillary teeth since two maxillary incisors reported by Rushton also showed "abrupt palatal angulation of the part of the crown already formed". This concept may be erroneous since in the case being presented the part of the crown already formed remained in a normal position and the post trauma growth proceeded palatally at right angles to the normal direction (Fig. 2).

This displacement of maxillary teeth can be explained, as in Fig. 19, as the



FIGURE 18

The dental sac on the superior surface of the specimen containing hemosiderin crystals indicating former hemorrhage. Note the dentine at the bottom, some cementum and an epithelial root sheath. Myelinated nerve fibres are present near the top.

result of a force applied mainly upward on the developing crown. The primary tooth is driven up labial to the permanent crown, fractures the labial plate and, with it, is lost. The upward movement of the permanent crown probably causes hemor-

rhage and damage to the bone at the base of the nose. Some rotation of the crown may occur later as the pseudoroot develops towards the palate.

The most common displacement pattern of mandibular incisors is the reverse of that for maxillary teeth in that the incisal part of the crown is displaced labially. Of five cases of mandibular incisors reported by Rushton and one by Kronfeld (Boyle 1955), all presented an apparent labial angulation of the displaced incisal portion of the crown. This is probably best explained by assuming that the direction of the force is the same as that affecting maxillary teeth. Such a force would drive the crown of the lower primary tooth lingually, rotating the apex and the labial plate in a labial direction. Since the crown of the permanent tooth is close to the apical portion of the primary one it is conceivable that displacement of the latter labially would create a pulling force on the permanent crown tipping it labially.

In Fig. 3B the pulp chamber and root canal of the lower right central (case two) can be seen from a lateral angulation. The pulp chamber appears to project lingually at the point of angulation. It is possible that foramina extend out in this direction, as they did in case one (Fig. 17), and that as eruption proceeded, these

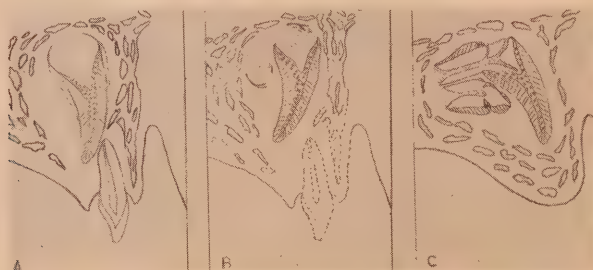


FIGURE 19

- A. Normal development of a maxillary central incisor at two years of age.
- B. Displacement at time of trauma.
- C. Later development.

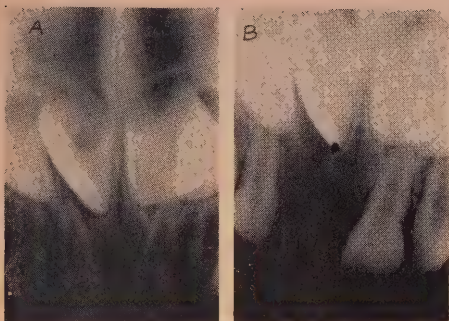


FIGURE 20

Case 3—A was damaged following an accident. I appears twisted in position. In B, A has been removed.

foramina became exposed leading to the death of the pulp tissue and the subsequent radiolucency shown around the apex in Fig. 3C.

The knowledge that foramina may extend out from the pulp just below the point of angulation of the crown may thus be clinically important if retention of these teeth is to be attempted.

DISCUSSION OF TREATMENT

The question arises regarding what is the proper course of action for the dentist to take in order to prevent serious injury to the permanent successors adjacent to primary teeth which have been severely traumatized in the 1-4 year age group of children. Most authors^(5,11,12) agree that the treatment of choice is to reposition the teeth except in the case of intrusion where it is suggested that the tooth be left alone until it erupts into occlusion. Brauer⁽³⁾ has pointed out the various abnormalities which might arise following traumatic injury to primary incisors and recommends extraction of the displaced primary tooth as soon as possible in order to reduce the possibility of abnormality



FIGURE 21

B A had been damaged one month previously with A being driven into the alveolar process almost out of sight.

in the developing permanent teeth. In the cases just described in this paper one could not recommend to remove the primary teeth or to reposition them since in one case the primary tooth was completely dislodged while in the other the tooth was repositioned yet the damage to the permanent successor was approximately the same in both cases. Finn⁽⁷⁾ has suggested that if there is a likelihood of damaging the permanent successor from the intruded primary tooth then the primary tooth should be removed.

Two cases presently being followed in the clinic are seen in Fig. 20A and B and Fig. 21. The case in Fig. 20 is the son of a dentist who, having heard a description of cases one and two in this paper decided to immediately remove his child's primary incisor which had been traumatized several weeks previously and

appears to have displaced the permanent incisor. The other case in Fig. 21 was intruded to the point of being almost completely buried but has now begun to erupt. Too few of such cases have been reported in the literature and it is hoped that this report will stimulate others to submit their case histories to the Journal especially those cases which have been followed for a number of years.

SUMMARY

Several cases of traumatic injury to permanent incisors resulting from a blow to the primary teeth in very young patients have been presented.

The histopathology of one of the cases followed for a period of six years has been described in detail.

Problems in treatment have been discussed.

Acknowledgment

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University of Alberta

Christmas Spirit

I am the Christmas spirit!

I enter the home of poverty, causing palefaced children to open their eyes wide, in pleased wonder.

I cause the miser's clutched hand to relax, and thus paint a bright spot on his soul.

I cause the aged to renew their youth and to laugh in the old way.

I keep romance alive in the heart of childhood, and brighten sleep with dreams woven of magic.

I cause eager feet to climb dark stairways with filled baskets, leaving behind hearts amazed at the goodness of the world.

I cause the prodigal to pause a moment on his wild, wasteful way, and send to anxious love some little token that releases glad tears—tears which wash away the hard lines of sorrow.

I enter dark prison cells, reminding scarred manhood of what might have been, and pointing forward to good days yet to be.

I come softly into the still white home of pain, and lips that are too weak to speak just tremble in silent, eloquent gratitude.

In a thousand ways I cause the weary world to look up into the face of God, and for a little moment forget the things that are small and wretched.

I am the Christmas spirit!

E. C. Baird.

Recurring Mandibular Supplemental Bicuspid*

GEORGE A. MORGAN, D.D.S., F.A.C.D.

contributors	}	GUY H. POYTON, F.D.S., H.D.D.
		STUART A. CROUCH, I.D.S., D.D.S.

A CASE OF POST MATURE DEVELOPMENT

With the increasing tendency to take complete dental roentgenograms, as a part of oral examination, it has been found that supernumerary or supplemental bicuspid are more common than former estimates would indicate. This can be accounted for by the fact that 75% of supernumerary or supplemental bicuspid are impacted and generally unerupted. Their incidence is about 1 in 10,000 people. Listed in the order of frequency of occurrence of supernumerary or supplemental teeth, are incisors, molars, bicuspid, cuspid and laterals. Some of the complications associated with them are delayed eruption, non-eruption, separa-

tion and malposition of the permanent teeth. Removal of these teeth at an early age may be a means of avoiding the majority of these complications. A characteristic of mandibular, supernumerary or supplemental bicuspid is a marked tendency to the formation of cysts.

This case as reported, was that of an orthodontic refer, (S.A.C.) age 11, September 1944. We were asked to remove the mandibular, left permanent, suppressed, first bicuspid and two mandibular, left, impacted, supplemental bicuspid, as illustrated in figure 1. Also the mandibular, right, permanent, first bicuspid and the mandibular, right, impacted, supplemental bicuspid, as illustrated in figure 2.

Figures 3 and 4 are immediate post-operative photographs illustrating the complete removal of permanent and supplemental bicuspid.

*From the Department of Radiodontics, Faculty of Dentistry, University of Toronto.



FIGURE 1
Left—Pre-operative 1944



FIGURE 3
Left—Post-operative 1944



FIGURE 2
Right—Pre-operative 1944



FIGURE 4
Right—Post-operative 1944

Figures 5 and 6 are photographs of the mandibular right and left bicuspid region, taken five years after the removal of the first set of supplemental bicuspids. It will

be noted that on the left side where there were originally two supplemental, impacted bicuspids there has now recurred two additional impacted, supplemental bi-



FIGURE 5

Left—Pre-operative 1949



FIGURE 7

Left—Post-operative 1949



FIGURE 6

Right—Pre-operative 1949



FIGURE 8

Right—Post-operative 1949

cuspid and on the right side where there was formerly one impacted, supplemental bicuspid, there has now recurred an additional impacted supplemental bicuspid.

Figures 7 and 8 are immediate post-operative photographs illustrating complete removal of the mandibular left and right, impacted, supplemental bicuspids.

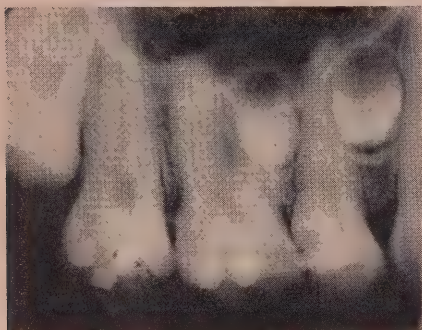


FIGURE 9

Left—Pre-operative 1949



FIGURE 10

Left—Post-operative 1949

Figure 9 illustrates the occurrence of two maxillary, left, supplemental bicuspid, not present in 1944.

Figure 10 is the immediate post-operative photograph illustrating the removal of the two auxiliary, left supplemental bicuspid.

COMMENT

This case is most unusual in that three mandibular, impacted, supplemental bicuspid removed in September 1944, for a

girl, age 11, have recurred as illustrated in figures 5 and 6, September 1949.

In addition, two maxillary, left impacted, supplemental bicuspid, not present at age 11, September 1944, have appeared in September 1949.

It is interesting to note a comparison in size and shape of the first group of bicuspid visualized in 1944 and of those in the second group visualized in 1949.

This case represents a total of eight impacted, supplemental bicuspid visualized and removed over a span of eight years.

170 St. George St.

Your Christmas Code of the Year

Motorists who set a high value on human life including their own will remember and heed the following simple rules during the Christmas-New Year's Holiday Season.

1. Winterize your driving habits as well as your car. Snow tires and low speed, for instance, always help during the winter months. So does gentle brake-pumping.
2. Leave your car behind if you plan to indulge in anything stronger than coffee.
3. Stop driving the minute you feel overtired. The overtired driver is likely to kill or be killed.
4. Make sure your window wipers and defroster always operate efficiently.
5. To stay alert and alive, drink one or two cups of hot, strong coffee before driving home at night.

These methods have been proven. They are worth trying—they can even save your life.

The Recurrent Aphthous Lesion

D. LANG* — L. E. FRANCIS, D.D.S., M.Sc.**

L. McCALLUM, M.D., C.M., F.R.C.P.(C)***

This condition occurs in (young adults and) adults and is so common that few individuals have not had at some time or another, some manifestation of this infection. The occurrence of the lesions is often associated with fatigue, colds, menstrual periods, fever or emotional disturbances.¹ They are fairly similar to those of primary herpetic gingivostomatitis, but are not as severe. The individual does not have an elevated temperature or a feeling of malaise. However, the lesions are painful and there is in some instances, difficulty in eating. A vesicle is first formed which quickly ruptures and results in a small shallow area which usually becomes secondarily infected and produces an inflammatory halo around the ulcers.² The condition has been referred to by a number of names; eg. "herpetic stomatitis," "ulcerative stomatitis," "recurrent aphthae" and "canker sores."³ It is common to think that the etiology of this condition is a virus and possibly the herpes simplex virus. However, in recent years, there have been reports by authors who were not able to demonstrate the inclusion bodies of the herpes virus, or the in-

crease of sera antibodies as can be seen with "primary herpetic stomatitis." The conclusion of these investigators was that these recurrent aphthae are not caused by a virus, but by some other agent. Because of this, we felt that it would be of interest to investigate further the etiology of these recurrent lesions.

Nine cases have been selected with lesions in different stages of development and location. In two cases, patients with vesicles that had not ruptured were used, aspirating the fluid from the blister-like lesion.

Figure 1 is an example of one of these cases. A large vesicle can be seen on the inner surface of the lip. The gingiva in this case is also involved as can be seen by the large white areas. Five other cases had the "canker sore" type of lesion either on the border of the tongue or the buccal mucus membrane.

Figure 2 is a photograph of one of these showing the lesion on the buccal mucus membrane. In the remaining cases, one was from the angle of the lips and was at the time in the healing stage. The other was a skin lesion that had occurred approximately one inch from the angle of the lips, and appeared as a typical cold sore. In these cases, the base of the lesions was curetted out so that some healthy tissue cells were acquired.

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***Director, Department of Virology, Montreal General Hospital

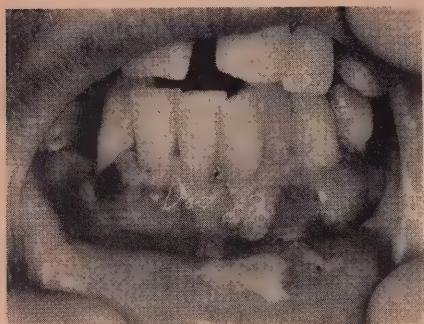


FIGURE 1

Photomicrograph of a vesicle type of lesion of the lip.



FIGURE 2

Photograph of a "canker sore" type of lesion on the buccal mucus membrane.

METHODS AND OBSERVATIONS

A. Isolation Procedures

All samples were placed in screw-capped vials containing beef heart infusion broth one part, and nine parts physiological saline. The vials were stored at -20°C . until required. Before use, each specimen was brought to room temperature and antibiotics were added. Originally, a concentration of 500 units of penicil-

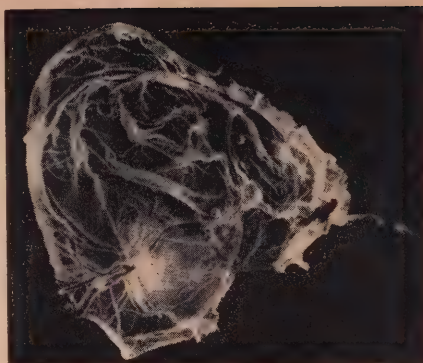


FIGURE 3

Normal control chick embryo chorioallantoic membrane.

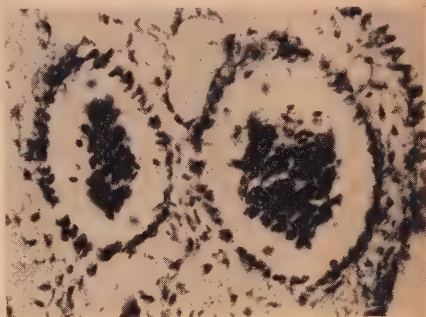


FIGURE 4

Microphotograph (X600) of normal control membrane showing normal cells and vessel walls.

lin, and 1000 mcg. of streptomycin per ml. of specimen were used to keep down any contaminants that might have been present. Later we attempted to keep the antibiotics to the minimum concentration capable of suppressing the normal flora of the mouth. This had been previously determined by varying the antibiotic concentrations in blood agar plates, and inoculating them with the specimens when they were first obtained. The plates were then incubated at 37°C . for forty-eight



FIGURE 5

Heavily infected chick embryo chorioallantoic membrane showing pox formations.

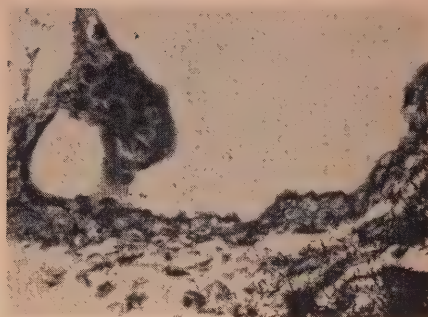


FIGURE 6

Microphotograph (X800) of a heavily infected chorioallantoic membrane showing cellular changes and bacteria.

hours and read. By this method it was determined that a concentration of 3.125 units of penicillin and 6.25 mcg. of streptomycin per ml. were sufficient to suppress normal flora. Six chick embryos, 13 days old, were used for each specimen and inoculated into the chorioallantoic membrane, with 0.2 ml. of each specimen. The section of the egg shell that had been removed for the inoculation was then sealed over with cellulose tape and the eggs incubated at 37°C. for 72 hours, after which they were candelled and chilled for five to six hours at 4°C. prior to harvesting.

Six chorioallantoic membranes from each specimen were floated into a sterile petrie dish containing broth saline and were examined against a black background for the characteristic pox of the herpes simplex virus. For the first three passages, no pox or alteration of the membrane could be observed.

Figure 3 is a photograph of a control membrane which macroscopically is essentially normal and showing no pox formations. Some opacity of the membrane may be observed at the site of inoculation, the inoculum being broth saline and antibiotics. One membrane from each passage was sent for sectioning and examined histologically for any tissue changes.

Figure 4 is a microphotograph of a sec-

tion of the control chorioallantoic membrane selected from the first passage. The tissue is essentially normal, showing a cross section of blood vessels. There is no evidence of the presence of vacuoles or giant cells, and no intracytoplasmic granules demonstrated. The cells are normal and uniform. The entire section was basophilic in appearance.

The remainder of the membranes were ground with sterile sand by means of a sterile mortar and pestle. Broth saline was added and the material decanted into sterile tubes. A period of ten minutes was necessary for the sand to settle out, after which the supernatant fluid was decanted and again inoculated into freshly prepared thirteen-day-old chick embryos, and incubated for another seventy-two hours. This procedure was repeated for eight passages, and from the fourth passage on, numerous pox could be seen on the surface of the membrane fairly characteristic of those caused by the herpes simplex virus.

Figure 5 is a typical example of one of these membranes which shows large colonies of the pox covering most of the surface of the tissue.

Figure 6 shows a microphotograph of a section of an infected chick embryo chorioallantoic membrane at the seventh passage. No intranuclear inclusion bodies

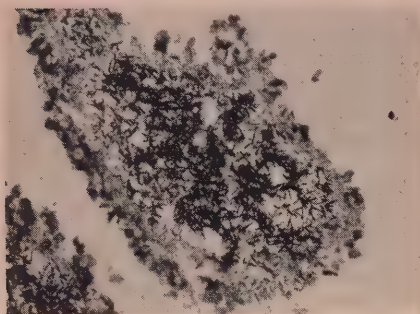


FIGURE 7

Microphotograph (X800) of a heavily infected chorioallantoic membrane, 8th passage.

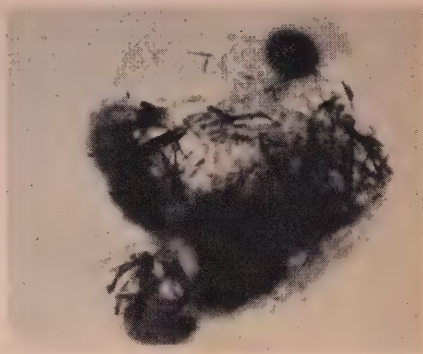


FIGURE 8

Microphotograph (X1200) of heavily infected human amnion (tissue culture).

are observed. All sections were stained by Giemsa's method. However, many cellular changes are seen. The vessel walls consist of numerous vacuoles and considerable damage to the cytoplasm of the cell has taken place. On the upper left hand side of the microphotograph can be seen giant cells containing masses of intracellular basophilic granules. From left to right of the vessel wall numerous vacuoles can be seen due to lysis of the cytoplasm. Here the staining reaction has become predominantly acidophilic as opposed to the basophilic section of the healthy tissue of the normal membranes. On the lower right-hand side a large number of fusiform-like bacilli can be seen, assumed to be responsible for the lysis of the cells.

Figure 7 shows an example of a membrane from the eighth passage, demonstrating that massive numbers of fusiform-like bacilli have caused almost total destruction of the membrane. We attempted to propagate the bacteria in the human amnion tissue culture with the result that the cells became heavily infected with the multiplying bacilli, resulting in almost total destruction of the tissue culture.

Figure 8 shows, as in the chick embryo membrane, a complete destruction of the human amnion cells with a multiplication of the bacilli.

B. Serology

With the exception of one, six of the patients were bled at the time the cultures were taken. The exception, No. 2 on the chart, unfortunately had received ten ml. of gamma globulin fourteen days prior to the bleeding, probably accounting for the higher titer. The cold complement fixation test routinely employed in this laboratory for virus serological investigations, was the method used to determine the serum antibody levels against herpes simplex virus in these cases. The complement was used at a strength of three units (one unit being the minimal amount of complement that would bring about 50% haemolysis in the presence of sensitized sheep cells). The end point, when reading the test, was determined by the last tube giving a reading of 50% haemolysis. The herpes simplex antigen was obtained from the Canadian Government, Department of Health and Welfare, Virus Laboratories, Ottawa.

Figure 9 shows the titration of the patients' sera against herpes simplex antigen. These titers would indicate that there has been no recent herpes simplex infection. We then attempted to fix complement in the presence of the previously standardized chorioallantoic membrane antigens

Serum dilutions -	1:2 - 1:4 - 1:8 - 1:16 - 1:32 - 1:64 - 1:128 - 1:256										Serum control		
											1:2 - 1:4 - 1:8		
Patient No. 1 -	20	35	45	65	75	80	80	100			100	100	100
2 -	0	0	0	15	45	60	70	90			100	100	100
3 -	0	0	0	20	60	75	90	90			100	100	100
4 -	40	40	60	60	75	90	90	90	% haemolysis		100	100	100
5 -	0	0	0	25	70	90	90	90			100	100	100
7 -	60	65	80	100	100	100	100	100			100	100	100
8 -	80	90	100	100	100	100	100	100			90	100	100

FIGURE 9

Photograph of a chart of antibody titrations.

and the homologous antisera, with the result that no fixation was observed.

We have not been able to demonstrate the presence of a complement fixing antibody to the organisms recovered in the chorioallantoic membranes. After the sixth chorioallantoic passage, the membranes from each case were pooled, ground with sterile sand, and diluted to a 20% suspension with sterile broth saline. They were centrifuged at 1000 rpms. for five minutes, after which the supernatant was decanted, and titrated for anticomplementary activity. This activity was high — five units of complement being required when standardizing the antigen for use in the C. F. test. The antigens were then titrated for maximum fixation with herpes simplex hyper-immune serum, obtained from Microbiological Associates Incorporated, Bethesda, Maryland. The complement fixing titer of this serum was previously determined by us to be 1:32 with three units of complement. The serum dilution was 1:5 rather than 1:10 to compensate for the five units of complement. No fixation was observed.

As can be seen, no herpes simplex virus was demonstrated in the inoculated membranes by this method.

SUMMARY

The observations presented show that specimens taken from recurrent aphthous lesions have the properties of producing pox on chick embryo chorioallantoic membranes. Histological examination of the

C.A.M. antigen dilutions -	1:10 - 1:20 - 1:40 - 1:50 - 1:60 - 1:80 - 1:120 - 1:640 - 1:280										serum C.		antigen C.
											1:5	1:10	
Patient No. 1 -	100	100	100	100	100	100	100	100	100	100	100	100	100
2 -	100	100	100	100	100	100	100	100	100	100			100
3 -	100	100	100	100	100	100	100	100	100	100			100
4 -	100	100	100	100	100	100	100	100	100	100	% haemolysis		100
5 -	100	100	100	100	100	100	100	100	100	100			100
6 -	100	100	100	100	100	100	100	100	100	100			100

FIGURE 10

Photograph of a chart of chorioallantoic membrane antigen titrations.

membranes shows characteristic giant cells, the presence of vacuoles along the vessel walls, caused by lysis of the cytoplasm, resulting in total destruction of the walls due to large numbers of fusiform-like organisms. No fetid odour occurred from the heavily infected embryos. The organisms were capable of tolerating high concentrations of antibiotics. These bacteria can be grown with considerable success in the presence of living cells. To date, we have been unable to grow them extracellularly in a variety of appropriate media. No *Borrelia* were observed.

The antibody titres demonstrated were not suggestive of a herpes simplex infection. No herpes simplex virus was demonstrated in the infected chorioallantoic membrane by means of the complement fixation test.

This study also suggests that this fusiform-like organism may be a causative agent in this type of infection, referred to as "recurrent herpetic stomatitis," "recurrent aphthae," and "canker sores." This problem is being further studied.

ACKNOWLEDGEMENTS

Dr. W. Mathews and Miss Dorian Slessor, Department of Pathology, for histological sections.

Dr. R. Reed, Department of Bacteriology, McGill University, Photography.

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Montreal General Hospital

Survey of Dental Practice — 1958

V—EXPENSES, PATIENTS, FEES

It was shown in Part II of this report that average net income of Canadian dentists is 52.9% of gross income. Of the remaining 47.1% which covered the expenses of operating a dental practice in 1958, the largest portion, 24.8% (25%)* was for laboratory

expense. Salaries paid to employees, cost of dental supplies, and office rent were next in order of expenses, taking Canada as a whole. Of the average expense dollar, the percentage spent on each item listed in Table 20 is about the same as in 1953.

TABLE 20
Independent Dentists
Mean Yearly Expenses—1958

Item	Mean Expenses	Percent of Mean Total Expenses	Percent of Mean Gross Income
Office Rent	\$1,004	12.3	5.1
Utilities	286	3.5	1.5
Insurance	128	1.5	.6
Lab Expenses	2,030	24.8	10.3
Dental Supplies	1,483	18.1	7.5
Salaries to Employees	1,820	22.2	9.2
Depreciation	545	6.7	2.8
Other Expenses	893	10.9	4.5

CDA Survey of dental practice 1958.

*Throughout this report, figures in brackets refer to the survey of 1953.

TABLE 21
Independent Dentists
1958 Mean Yearly Expenses by Provinces

Item	B.C.	Alta.	Sask.	Man.	Ont.	Que.	N.B.	N.S.	P.E.I.	Nfld.	Blank
Office Rent	\$1,173	\$1,043	\$1,021	\$ 922	\$1,026	\$ 920	\$ 837	\$ 696	\$ 554	\$1,116	\$ 702
Utilities	305	332	236	252	283	297	288	227	189	325	185
Insurance	112	91	89	69	102	251	104	130	191	110	106
Lab Expenses	2,133	2,016	2,793	2,354	1,994	1,836	2,467	1,713	1,377	1,987	1,553
Dental Supplies	1,758	2,012	1,787	1,452	1,436	1,139	1,524	1,128	928	1,714	1,927
Salaries	2,332	1,889	1,788	2,121	1,975	1,198	1,064	1,202	649	2,078	1,556
Depreciation	721	1,008	541	509	481	393	407	381	297	981	723
Other Expenses	1,202	952	1,018	759	934	588	950	810	670	859	576
	\$9,736	\$9,341	\$9,273	\$8,438	\$8,231	\$6,622	\$7,641	\$6,287	\$4,855	\$9,170	\$7,328

TABLE 22
Independent Dentists
Average Number of Patients and Sitzings

Provinces	Average No. of Patients per Dentist	Average No. of Sitzings per Dentist	Average No. of Sitzings per Patient
Blank	832	1,918	2
British Columbia	846	2,559	3
Alberta	1,158	2,508	2
Saskatchewan	1,378	2,657	2
Manitoba	918	2,164	2
Ontario	972	2,665	3
Quebec	1,037	2,118	2
New Brunswick	1,169	2,687	2
Nova Scotia	928	2,644	3
Prince Edward Island	429	1,602	4
Newfoundland	951	2,705	3
Canada	1,000	2,509	2.5

CDA Survey of dental practice 1958.

Table 21 gives a breakdown of expense items by provinces. Whereas the previous table showed laboratory expenses taking the greatest portion of the expense dollar nationally, this fact was not true of every province. In British Columbia and Newfoundland, for instance, employees' salaries headed the list. Total expenses in 1958 were highest in British Columbia and lowest in Prince Edward Island.

Canadian dentists serve 1,000 patients each,

on the average, with 2½ sittings per patient, according to Table 22. The picture was only slightly different in 1953, with 1,070 patients per dentist and 2.3 sittings per patient. From the 1958 figures it would appear that Canada's 5,800 dentists served 5,800,000 people, or about 34% of Canada's 17,000,000 population. Compared with potential service to 35% of the population in 1953, it appears that this country's dental population is not increasing as fast as the general population.

TABLE 23
Independent Dentists
Average Number of Patient Sitzings
Net Income Level

Net Income Level	Average No. of Patients	Average No. of Patient Sitzings
Blank	691	1,778
1- 949	674	1,116
950- 1,949	285	1,038
1,950- 2,949	302	794
2,950- 3,949	516	1,300
3,950- 4,949	576	1,407
4,950- 5,949	736	1,707
5,950- 6,949	880	1,877
6,950- 7,949	934	2,088
7,950- 8,949	956	2,190
8,950- 9,949	1,070	2,691
9,950-10,949	972	2,617
10,950-11,949	1,090	2,781
11,950-12,949	1,316	3,017
12,950-13,949	1,024	3,010
13,950-14,949	1,084	2,823
14,950-15,949	1,191	3,068
15,950-16,949	1,242	3,085
16,950-17,949	1,202	3,172
17,950-18,949	1,378	3,218
18,950-19,949	1,403	4,081
19,950-24,949	1,146	3,266
24,950-29,949	1,680	4,882
29,950-& over	2,052	3,766

CDA survey of dental practice 1958.

Table 23 shows a correlation between numbers of patients and sittings and net income level. It will be observed that, with some exceptions, net income generally increases with the number of patients and sittings.

Table 24 lists average fees charged for four dental operations. By combining these figures for each province, the provinces were ranked in order from highest to lowest fees. On this basis the order, compared with 1953, is as follows:

1953	1958
British Columbia	British Columbia
Alberta	Alberta
Manitoba	Saskatchewan
Quebec	Ontario and
Ontario	Newfoundland
Saskatchewan	Manitoba
Newfoundland	New Brunswick
Prince Edward Island	Quebec
New Brunswick	Nova Scotia
Nova Scotia	Prince Edward Island

This is the final part of this report. The information became available only through the co-operation of those dentists who replied to the questionnaire. It is hoped that comparison of this report with individual dental practices will be of benefit to our members. Published and other facts learned from this survey will be of considerable value in the work of the Canadian Dental Association.

Reprints of the complete report, which appears serially in October, November and December 1959 issues of the Journal, should be available in January 1960 from the Association.

TABLE 24
Independent Dentists
Average Fees—1958

Province	Two Surface Amalgam	Two Surface Gold Inlay	Silicate or Acrylic	One Complete Denture
Blank	5.18	18.18	4.45	63.18
British Columbia	5.69	19.91	5.27	68.54
Alberta	4.88	16.61	4.71	69.32
Saskatchewan	4.85	15.97	4.71	70.79
Manitoba	5.31	15.57	4.65	63.29
Ontario	4.85	17.23	4.67	69.23
Quebec	4.69	14.23	4.45	57.17
New Brunswick	4.41	15.53	4.34	58.13
Nova Scotia	4.15	14.29	4.17	58.39
Prince Edward Island	3.45	11.91	3.82	55.91
Newfoundland	5.55	14.41	5.32	66.14
Canada	4.92	16.64	4.69	66.15

CDA Survey of dental practice 1958.



Plan ahead for OTTAWA
and The National Convention in 1960
September 25 to 28

EDITORIAL

Great Expectations

The index of a strong profession is the development of strong principles and strong teaching institutions. Our profession will long remember and reflect upon the year 1959 as the year that the new University of Toronto Faculty of Dentistry was opened.

By sheer force of physical opportunities and academic convenience, dental teaching in this new environment will be projected into a new era. Within these walls, the ideals and progressive imaginations of teachers and scientists of dentistry can advance rapidly toward reality unhampered by the frustrations of lack of space, equipment and other physical resources.

The only reliable hope for man's future rests with his educational opportunities, and his willingness to use his knowledge intelligently. Only new knowledge emanating from dental research and teaching can possibly lead to an existence free of dental illnesses. In their new quarters of almost two full floors our men of research can unleash their abundant enthusiasm to delve into the unexplored realms of the biological facts related to dentistry, restrained only by the temporary want for more knowledge.

The teaching facilities can accommodate the large classes of the future that must surely graduate to cope with the surging and arithmetically ominous increases in Canadian population. All viewers of the

new dental faculty will be awed and perhaps momentarily stunned by its size and the magnitude of its potential for the planners of this institution have looked ahead in a positive effort to grapple with and anticipate future needs.

Everything possible has been devised to assure the smooth and efficient increase and flow of knowledge from scientist to teacher to student and ultimately to the public. Fifteen years of unselfish effort were necessary to bring this Faculty into being. Surely Dean R. G. Ellis and his faithful staff must view the fruits of their labours with satisfaction.

This six floor colourful teaching institution with its 184,000 square feet of floor space embraces every innovation imaginable. On the day of its formal opening Wednesday, November 25th visitors saw closed circuit television facilities, a 124 dental unit rotor equipped clinic room, ramps for patient travel, motorized screens, a reading room accommodating 120 in a well appointed library, the most modern sterilizing methods and many other marvels. Dentistry is gratefully proud of this magnificent institution.

The dental alumni of this University have been granted the greatest incentive to support dental education. Assuredly we will by generous contributions, show our gratitude to those who have made its development possible.

Le Journal de l'Association Dentaire Canadienne
vous Souhaite
un Joyeux Noël et une Bonne et Heureuse Année.

The Journal of the Canadian Dental Association
sincerely wishes everyone
a happy Christmas and a peaceful New Year.

Once again the months have flown by to the time of year when the Christian world pauses to think and act unselfishly and to take stock before rushing into another year of uncertainty.

People now band together to sing carols, to laugh, to really wish each other well and to don the cloak of respectability and altruism. For many this is a welcome opportunity to live as they would really like to but for others it is merely a time of pretence, profiteering and overindulgence. The meaning of Christmas Day is so diluted and distorted that it is now virtually lost in the vast and unemotional machine of competition.

There are millions who are repulsed that this day and its meaning are being torn from them and steadfastly refuse to relinquish this day to the commercial world. For them it is still and always

will be at least one day of the year when unselfish deeds and thoughts alone will govern their conduct.

In this age when nothing can be considered as really impossible, perhaps we can look forward to a time when most of the world will recognize a specific day of being kind to all others without thought of personal gain. A time when Christians, Jews and all free races will cease to amplify their difference in creed and religion and will celebrate the great and common principles of universal brotherhood.

Let us hope with all our hearts and minds that in the new year man will continue his wonderful discoveries and conquests in the vast and unexplored vistas of science. But let us hope even more fervently that man's intelligent desire for lasting peace and world betterment will keep pace with his discoveries.

Many years ago the United States' branch of the Salvation Army asked the Army's founder, General William Booth of England, to telegraph a Christmas message that could be quickly and briefly spread across this continent.

General Booth wired a Christmas message of a single word. "OTHERS". Simple yet profound, sentimental yet practical, this message had a world of meaning in it.

And still, Christmas means to us only as much as we make it beautiful and meaningful for others.

BOOK REVIEWS

Disorders of the Temporomandibular Joint

Prepared by: Laszlo Schwartz, D.D.S. and 18 contributors.

Published by: W. B. Saunders Co.

Pages: 471; 458 illustrations—Price \$15.00.

Laszlo Schwartz presents us with a refreshingly different approach in Dentistry. Although this book concerns itself primarily with the Temporomandibular Joint, its subject matter could very well be applied to other facets of dentistry. For example, results could be disastrous if mouth rehabilitation were undertaken in certain cases.

The teeth and associated masticatory structures are psychologically significant in a variety of disorders. Schwartz and his eighteen contributors unravel this theme until it not only makes good sense but explains other phenomena hitherto considered to be obscure. Ever since Costen and other workers began to explain certain syndromes associated with temporomandibular joint disorders, occlusion was considered to have primary significance. Schwartz convincingly negates Costen's theories and places occlusion in its proper perspective. He does not minimize the importance of good occlusion but points out other factors of equal importance. In fact occlusion is discussed very thoroughly.

He and his contributors discuss almost every type of treatment for the temporomandibular joint. This reviewer, however, missed a discussion of Victor Sear's pivoting method which is widely employed by members of the American Equilibration Society, an organization primarily concerned with studies of the joint.

Schwartz personally discusses many subjects, outstanding among which are chapters on pain dysfunction, dental pain and therapeutic exercises. Anatomy, radiography, therapy and psychology are adequately treated by others. Differential diagnosis is particularly well handled.

This is a very comprehensive book, very readable and most interesting.

Charles H. Moses.

Treatment Planning in the Practice of Dentistry.

Prepared by: H. M. Goldman, D.M.D., L. W. Burket, D.D.S., M.D., and Staff of the School of Dentistry and Graduate School of Medicine, University of Pennsylvania.

Published by: The C. V. Mosby Co.

Pages: 305—Price \$6.50.

This book is a compilation by many of the staff of the School of Dentistry and Graduate School of Medicine, University of Pennsylvania, and, as its title suggests, deals solely with diagnosis and treatment planning of the various aspects of a general practice of dentistry. It is a concise and well-illustrated handbook that covers a broad scope and must, of necessity, be brief in many areas. It is good in that it shows an orderly approach in teaching an appreciation of dental treatment to the undergraduate, and to this end it is to be commended.

Chapter 2 outlines the information required from a comprehensive dental examination suggesting pertinent questions and observations relative to operative, periodontal, radiographic, surgical, and prosthetic procedures. Charts recommended by the dental school of University of Pennsylvania are illustrated.

Chapter 3. Operative procedures are discussed from the standpoint of the teeth, lesions in tooth structure, anomalies seen in tooth structure, treatment planning, and restorative materials. The restorative materials are discussed with their relative merits and limitations applied to the topics of location of the cavity, cavity outline, pulp protection, and correcting tooth forms.

Chapter 4 deals with clinical symptoms and aids in diagnosis. Considerable confidence is expressed in the electric pulp tester and interpretation given to relative responses of a tooth to electric current. This was felt to be a more reliable pulp test than thermal test — a view that is not shared by all. The author also claims that a chronic alveolar abscess may be differentiated radiographically from a dental cyst and granuloma — again, a view not universally held. Indica-

tions for endodontics with and without resection are also discussed.

Chapter 5. An approach to periodontal treatment is made dealing with objective of therapy, elimination of local factors, elimination of gross occlusal interferences, temporary splinting, supra and infra bony pocket elimination.

Chapter 6. Exodontia is mentioned briefly.

Chapter 7. Fixed partial prosthesis is discussed with regard to mechanics of the bridge and abutment teeth, and pontic design.

Chapter 8. Removable partial dentures are discussed with consideration given to requirements of abutment teeth, their support and relationship to the rest of the dentition. Occlusal rests, their design and mechanics are discussed, with their author

advising tooth preparation to control axial loading. Clasp design is also covered briefly.

Chapter 9 briefly relates fixed with removable partial denture prosthesis.

Chapter 10. Complete denture prosthesis is discussed suggesting desirable and undesirable mouth formations and psychological factors.

Chapter 11 suggests the sequence and integration of all the previously mentioned forms of treatment.

Chapter 12 in case presentation, discusses psychologic and economic blocks that may impede the dentist-patient relationship. Patient education, the aids used, and an outline of presentation is noted.

D. B. McAdam.

THE LIBRARY

ADDITIONS

BURNETT, G. W. & SCHERP, H. W.: Oral microbiology and infectious disease; a textbook for students and practitioners of dentistry. Baltimore, Williams & Wilkins, 1957. 589 p. illus. \$11.00.

COFFIN, K. B. & COLWELL, R. F.: The medical secretary in a medical hospital, or dental office. New York, The Macmillan Co., 1959. 391 p. illus. \$5.95.

GUSTAFSON, Anna-Greta: A morphologic investigation of certain variations in the structure and mineralization of human dental enamel. (Odontologisk tidskrift, Vol. 67, No. 4, 1959, Pages 361-472, plus 42 color plates and 156 fig. in black and white.) Lund, Sweden, Boktryckeriet.

INGLE, D. J.: Principles of research in biology and medicine. Montreal, Lippincott, 1958. 123 p. \$4.75.

McCLUGGAGE, R. W.: A history of the American Dental Association; a century of

health service. Chicago, American Dental Association, 1959. 520 p. \$8. Deluxe \$12.50.

NEVIN, MEDEL & NEVIN, M. I.: Conduction, infiltration and general anesthesia in dentistry. General anesthesia section by Julius Roy Bourgoyne. 6th ed. Brooklyn, N.Y., Dental Items of Interest, 1959. 393 p. illus. \$8.50.

SHANE, S. M.: Handbook of balanced anesthesia in dentistry, obstetrics and surgery. Baltimore, Lowry & Voltz, 1958. 272 p. illus. \$7.85.

STOOKEY, B. & RANSOHOFF, J.: Trigeminal neuralgia; its history and treatment. Springfield, Thomas, 1959. 366 p. illus. \$11.75.

WUEHRMANN, A. H.: Roentgenographic interpretation of dental caries. (Practical dental monographs, September 1959.) Chicago, The Year Book Pubs., 1959. 46 p. illus.

A simplified mailing procedure for library books has been instituted. Authorization has been received from postal authorities to mail at special book rates, resulting in a considerable saving to the Association, and eliminating postage costs to borrowers.

Now books are to be returned in their original wrappers, using the return label provided, and leaving the original postage tape intact. The borrower's return address should be omitted. In this way, the borrower is not required to pay postage.

THE ASSOCIATION

\$60,000 Commitment for Faculty of Dentistry, McGill University

As a basis for the long-range strengthening and expansion of its program of dental education and research, the Faculty of Dentistry of McGill University will use a \$60,000 commitment from the W. K. Kellogg Foundation to meet a portion of the salaries of two additional full-time teachers. Through a five-year period, the annual payments from the Foundation will be in decreasing amounts, with the University gradually assuming a greater portion of the salary load and after the fifth year assuming full responsibility for the salaries. The added full-time teachers are for the areas of Oral Surgery and Denture Prosthesis.

McGill's Faculty of Dentistry is now fifty-five years old and from the institution more than 800 dentists have been graduated. The current clinical Faculty is comprised of four full-time teachers and two half-time teachers plus a considerable number of part-time staff. Its work is enhanced by close association with McGill's Faculty of Medicine, especially for the teaching of basic sciences, and with the Montreal General Hospital, where its teaching clinics are housed.

During the past few years, a Consultation and Accreditation Program, carried on by the Council on Dental Education of the Canadian Dental Association and financed partly by the Foundation, led to many advances in dental education — from curriculum to physical plant — related directly to recommendations from the CDA survey team reports. These reports and the implementation of improvements recommended therein led to the eventual accreditation of all of Canada's dental schools, and the additional full-time teachers will enable McGill to carry out still another recommendation from the broad-gauged survey program. Such supplementation of the Faculty should be of real impetus to further strengthening of the school's undergraduate, graduate and postgraduate education and its program of dental research, and eventual expansion of its student enrollment.

Orthodontic Section of the C.D.A.

The following Orthodontists make up the executive of the Orthodontic Section of the Canadian Dental Association: Chairman, Dr. E. E. Johns, 847 Princess St., Kingston, Ont.; Vice-Chairman, Dr. J. G. Ryan, Medical Dental Bldg., Vancouver, B.C.; and Secretary-Treasurer, Dr. J. J. Schachter, 209 Canada Bldg., Saskatoon, Sask.

THE CANADIAN DENTAL ASSOCIATION ANNUAL CONVENTION

Chateau Laurier

Ottawa, Ontario

September 25-28, 1960

THE CORPS



Dr. Don W. Gullett, Secretary, Canadian Dental Association, receives Honorary Life Membership from Brigadier E. M. Wansbrough.

Annual Dinner

At the annual dinner held Friday, October 30, 1959, at the R.C.A.F. Officers Mess, Gloucester St., Ottawa, the chairman, Lt.-Col. J. L. Warriner, presented the Honorary Scroll to Brigadier E. M. Wansbrough, appointing him life member and honorary president of the Association.

Brigadier Wansbrough presented Honorary Life Membership to Dr. Don W. Gullett, Secretary of the Canadian Dental Association.

Brig. K. M. Baird, Director General Dental Services, presented General Efficiency Trophies won by Militia Dental Units across Canada.

1. Moore Trophy to Lt.-Col. G. McLeod, C.O. No. 50 Dental Unit CA (M), Halifax.
2. Trelford Trophy to Lt.-Col. C. E. Woods, C.O. No. 54 Dental Unit CA (M) of Ottawa.
3. Saskatchewan Memorial Trophy to Lt.-Col. G. L. Ramsay, C.O. No. 51 Dental Unit CA (M) Saint John. Most improved Unit.

Brigadier Baird Inspects No. 15 Dental Company

During October and November Brigadier K. M. Baird carried out an inspection of R.C.D.C. personnel and facilities at Army and R.C.A.F. units in Quebec and Labrador.

Major Small on Course

Major E. J. C. Small, Headquarters Central Command, Oakville, Ont., attended a two-week course in Crown and Bridge Prosthesis at the University of Michigan, October 19-30.

Dental Meetings

Colonel T. L. Marsh, Command Dental Officer, Quebec Command, represented the Director General at the Annual Fall Clinic of the Montreal Dental Club on the 29th and 30th of October.

Captain J. L. Craig, The R.C.D.C. School, Camp Borden, Ont., presented a clinic on periodontal disease at the same convention.

Overseas Postings

Major D. H. Skinner to No. 4 Field Dental Company in Germany from R.C.A.F. Station, Camp Borden, Ontario.

Major D. J. Carmichael of Vancouver, B.C., to Canadian Base Units Middle East from H.M.C.S. Shearwater, Dartmouth, N.S.

Captain L. A. Reynolds of Queensport, N.S., to Canadian Base Units Middle East from H.M.C.S. Stadacona, Halifax, N.S.

Return From Overseas

Captain F. C. Buschlen of Arthur, Ont. and Captain J. J. N. Wright of Exshaw, Alberta, have returned to Canada after a one-year tour of duty with the United Nations Emergency Force in the Middle East. Captain Buschlen will be employed at Camp Ipperwash, Ont. and Captain Wright at Camp Borden, Ont.



Pictured above are officers who attended the Command Dental Officers' Conference held in Ottawa October 26-28.

Command Dental Officers' Course and Conference

Command Dental Officers from across Canada and Commanding Officers of the Field Dental Units in Europe attended a course at The R.C.D.C. School, Camp Borden from October 19-23 and a Command Dental Officers' Conference in Ottawa held October 26-28.

The course at The R.C.D.C. School stressed the management of mass casualties and the latest techniques for dental treatment.

The conference was under the direction of the Director General of Dental Services, Brigadier K. M. Baird and chaired by Colonel G. B. Shillington, Deputy Director General of Dental Services. Papers presented and discussion held dealt with present and future plans and policy for the Corps in peacetime and in event of war.

On October 27 those attending the conference and all R.C.D.C. officers in the Ottawa area attended a formal mess dinner and dance at the A.F.H.Q. Officers' Mess.

Command Dental Officers and Field Unit Commanders attending the course and conference were:

Colonel I. A. L. Millar—Western Command, Edmonton.

Colonel B. P. Kearney—Commandant, The R.C.D.C. School, Camp Borden.

Colonel A. C. Leman—Central Command, Trenton.

Colonel T. L. Marsh, Quebec Command, Montreal.

Lt.-Col. C. E. Purdy—No. 14 Dental Co'y, Winnipeg.

Lt.-Col. W. M. Sinclair—Eastern Command, Halifax.

Lt.-Col. G. R. Covey—No. 35 Field Dental Unit, France.

Lt.-Col. R. H. G. Cunningham—No. 4 Field Dental Company, Germany.

On the final day of the conference four members of the Militia Advisory Staff were in attendance:

Colonel H. R. MacLaren, Ottawa.

Colonel J. E. Merritt, Halifax.

Colonel D. W. Henry, Montreal.

Colonel T. J. S. Cooke, Winnipeg.

R.C.D.C. Association Annual Meeting Held in Ottawa 30-31 October, 1959

The following officers were elected: Hon. Presidents, Brig. E. M. Wansbrough, Ottawa, Col. J. P. Whyte, Saskatchewan; Past President, Lt.-Col. J. L. Warriner, Winnipeg; President, Lt.-Col. N. L. Simmon, Toronto; Pres. Elect, Lt.-Col. J. S. Goodfellow, Calgary; 1st Vice-Pres., Lt.-Col. G. Campbell, Winnipeg; 2nd Vice-Pres., Lt.-Col. C. E. Woods, Ottawa; Secretary, Col. C. B. Climo, Ottawa, and Treasurer, Col. H. R. McLaren, Ottawa.

Postings in Canada

Captain G. R. Myles to Dental Clinic, A.F.H.Q., Ottawa, from R.C.A.F. Station, Downsview, Ont.

THE PROVINCES

ALBERTA

Lethbridge and District Dental Society

The first fall meeting of the Lethbridge and District Dental Society was held September 16th at the Lethbridge Country Club. It took the form of a Ladies Night followed by golf and dinner. Dr. Van Christou won the Dave Bowen Trophy, and prizes for the ladies went to Mrs. Christou and Mrs. Redding.

The October meeting was held October 14th at the El Rancho Motel. Dr. Bert Sparrow of Calgary was guest speaker. He is chairman of the Public Information Committee of the Alberta Dental Association and reported on the activities of this committee stressing the importance of good public relations. Following a business meeting, elections were held for the new executive. Elected were: President, Dr. E. Erickson; Vice-president, Dr. Al Gray, and Secretary, D. G. Anderson.

D.A.R.

be responsible for their reactions and have antidotes at hand. A lively question period clarified several obscure points.

Dr. Orville Wright, the president, welcomed five new members and predicted a successful year.

Dr. Max Nacht, past president, was presented with a gift for his efforts during his tenure of office, and Dr. Charles Whitworth was also the recipient of a gift in token of appreciation for his two years' presidency of the Council. The presentations were made by Dr. John Ryan and Dr. Wesley Munsie.

During the business period a lengthy discussion took place regarding the study club space in the new dental headquarters.

D.H.M.

NEW BRUNSWICK

New Brunswick Enters Dental Plan

New Brunswick recently became the fourth province to enter the post payment plan administered by Canadian Dental Services Plan Incorporated in Toronto. The plan was adopted at the 64th Annual Meeting of the New Brunswick Dental Society, presided over by the retiring president, Dr. D. C. Steeves of Moncton.

D.S.P.I. was organized in Saskatchewan about 10 years ago. It was later adopted in Ontario and last June the Nova Scotia Dental Society sanctioned it.

Details of the plan were traced by Dr. A. J. Coughlan of Westfield, honorary life president of the provincial society and chairman of the dental services committee, who stated that while no interest would be

BRITISH COLUMBIA

Vancouver and District Dental Society

The first meeting of the season was held on October 6 when Dr. John D. Gehrig, professor of oral surgery at the University of Washington, gave two lectures of value to the general practitioner.

At four o'clock "Problems in Exodontia Including the Treatment of Infections" was the subject, and in the evening following the social hour and dinner, Dr. Gehrig spoke at length on antibiotics. He stated that the dentist should prescribe these drugs himself,

charged, there would be on the average a 30-cent charge for every payment made.

The plan will be administered by the D.S.P.I., to whom all accounts will be sent in Toronto. Further details were outlined at the society's annual luncheon held at the New Royal Hotel, by Mr. W. E. Jackson of Toronto, administrator for the plan for the Royal College of Dental Surgeons of Ontario.

New Brunswick Dental Society

The New Brunswick Dental Society held its 64th annual meeting at the New Royal Hotel, Edmundston, in September. New officers for the Society were elected as follows: succeeding Dr. D. C. Steeves of Moncton as president, Dr. P. M. Clarke of St. Stephen; vice-president, Dr. B. A. Cyr, Edmundston; secretary-treasurer, Dr. E. D. Halford, Saint John; directors, Dr. R. B. DeWare, Moncton, Dr. A. D. Bona, and Dr. J. G. Blackmer, Saint John. Dr. H. F. Bonnell, Saint John will represent the society on the national dental examining board, and Dr. W. Blake O'Brien will represent the province in the Canadian Dental Association.

Fluoridation

The society re-affirmed its stand on fluoridation in a resolution calling for the provincial government to reconsider permissive legislation to allow the addition of fluorine to municipal water supplies, providing any N.B. communities or municipalities desire it.

The resolution, which received unanimous approval by the 60 dentists in attendance, will be sent to Hon. Dr. J. F. McInerney, provincial minister of health and social services.

NOVA SCOTIA

Dalhousie School of Dentistry

Dalhousie School of Dentistry recently came in for high praise from a visiting dentist and medical doctor from London, England, Dr. W. A. Cannell.

Dr. Cannell, following a tour of the dental school and clinic, said its layout and equipment embodied the latest techniques and teaching facilities for dentistry and placed it in the front rank of any dental hospital he visited in Europe or North America.

Dr. Cannell was visiting relatives in Halifax after attending the A.D.A. Centennial Session and the F.D.I. Congress in New York. He also visited a number of dental schools

and research organizations in Philadelphia and Washington.

Now engaged in research work, Dr. Cannell's particular field is fluoridation.

He visited Canada on a number of occasions and in the First World War served in the Canadian army overseas and was awarded the Military Medal. Dr. Cannell had been living in Saint John for about a year when war was declared.

ONTARIO

Toronto Academy of Dentistry Annual Dinner

The Annual Dinner of the Toronto Academy of Dentistry was held October 26th at the Royal York Hotel where over three hundred members attended. The President of the Academy, Dr. James A. Bigelow, gave a welcoming address and outlined the activities planned for the year. He stressed particularly the success of the Emergency Service Roster and the Mediations Committee. Dr. Charles H. M. Williams spoke on behalf of the University of Toronto National Fund for Expansion pointing out the Dental Faculty in its new building "Ellis Palace" has already reaped the benefits of the campaign and hence has a particular obligation to support the drive.

The guest speaker for the evening was Dr. Ernest M. Howse of Bloor Street United Church, Toronto. In 1948 he was United Church representative and correspondent for the Winnipeg Free Press at the World Council of Churches in Amsterdam and in 1954 he was a special newspaper correspondent at the World Council of Churches in Evanston, Ill. Also, in 1954, he was one of 25 Christian leaders invited to meet Muslim leaders in the first Muslim-Christian Convention, in Bhamdoun, Lebanon. The following year in Cairo, he was elected Christian Co-President of the Committee on Muslim-Christian Co-operation. Dr. Howse's subject was "The Problem of People." He pointed out that every day we are warned of the horror of a nuclear war — we are threatened with complete destruction by the "H" bomb! However, this threat has become so real that there is hope that world leaders realize this and accord will be reached in abandoning such dangerous experiments. But, with the threat of "Destruction" gone, an even graver danger arises — "Starvation"! Ridiculous you might say, especially in this land of plenty, but let us look at some facts. The population of the world today is approximately 3 billion.

In less than every fifty years this figure will double in a steady arithmetic progression. By 1980 there will be 1 billion population in China and 800,000,000 in India. These people must be fed and will look in the direction of our land of plenty. We also are achieving a "death control" by means of medical advances and modern drugs. Some great killing diseases of recent times are now almost extinct. This only adds to the problem.

R.M.G.

Dentistry in Mediscope '59



Just prior to the opening of the building . . .

Canada's first Health Science Exposition, Mediscope '59, sponsored by the Ontario Medical Association, was a success beyond the most optimistic hopes of those who envisioned it and brought it into being. From ten o'clock on Thanksgiving morning, October 12th until long after the official closing hour on the following Saturday evening the C.N.E.'s Queen Elizabeth Building was taxed to the utmost to accommodate those desiring to view, at first hand, the role of the physician, dentist, pharmacist, nurse and others in allied fields, in every phase of health care. For the second time in the experience of the Canadian National Exhibition buildings' staff, the Fire Marshal was required to enforce the accommodation limit within the building and it was a common sight, indeed, to see long queues of people being permitted entrance, a few at a time, as earlier comers departed the building for their homes.

As one travelled throughout a third of a mile of exhibits he saw unfolded the latest

in scientific techniques employed to-day in the prevention and treatment of illness and disease. Fields of practice within the medical and allied professions were graphically displayed and as each exhibit was manned by personnel having a direct relationship to the specific area of interest the public had the opportunity to receive explanations of many facets of almost all fields of health care.

The exposition was of particular pertinence to the high school age group as many thousands of them were brought by buses from points within a one-hundred-mile radius of Toronto. In addition each High School in Ontario was given the opportunity of sending two students, at no cost, to view Mediscope '59. It will be a matter of significant interest to determine the effect of this exposition on recruitment.

There were fifty individual exhibits covering the role of the physician in every phase of medicine from birth to the treatment of the aged and telling the story of those in allied professions as well as the important tasks being performed by health agencies and government departments.

Dentistry's exhibit, while by no means the largest, was certainly one of the top quality displays in Mediscope '59. It was thronged with interested visitors during the entire exposition. The display considered dentistry's three major problems — caries, periodontal diseases and malocclusion. Coloured pictures and most attractive artwork combined to show the effects of disease in each of the three areas with particular attention being directed to aetiology and methods of prevention. Another large exhibit area presented the opportunities inherent in dentistry as a career. Fluoridation and Research received special attention.



. . . and a few minutes later.

During the six days of the exposition, the display was manned by forty dentists, nine hygienists, and thirteen dental assistants each being in attendance at certain stipulated times. In addition to being available to answer questions and provide explanations for the public the attendants distributed many thousands of pieces of dental literature. The Junior Red Cross and the Canadian Dental Association were most generous, the former supplying an unlimited number of its "Dental Booklets" and the latter fluoridation pamphlets and career booklets.

Dentistry's exhibit was financed by grants from the Royal College of Dental Surgeons of Ontario, the Ontario Dental Association, the Academy of Dentistry, Toronto and by nine members of the Canadian Section of the American Dental Trade Association. The entire cost of the exhibit including rental was \$6,808.00 of which \$3,510.00 was provided equally by the following firms:

The Amalgamated Dental Company (Canada) Limited; Ash Temple Limited; The L. D. Caulk Company of Canada Limited; The Dental Company of Canada Limited; The Dominion Dental Company Limited; National Refining Company Limited; Novocol Chemical Mfg. Co. of Canada Limited; S. S. White Company of Canada Limited; and The Williams Gold Refining Co. of Canada Limited. The profession is most grateful for this participating and tangible interest on the part of our Dealers and Manufacturers and extends to them our sincere thanks and appreciation.

The exhibit is now being stored in R.C.D.S. Headquarters and is available for utilization by local dental societies throughout the province and, it is hoped, in other provinces as well.

W.J.D.

Brockville Dental Society

The Brockville Dental Society met recently with the president, Dr. F. J. Phillips, presiding and all members present. Many dental health problems were discussed and plans were made to have visits from outstanding clinicians during the winter months.

The following were elected to office: past-president, Dr. F. J. Phillips; president, Dr. C. O. McDougall; vice-president, Dr. A. W. Sheridan; secretary-treasurer, Dr. W. L. Durant; social committee, Dr. C. D. Goodison, and equipment, Dr. F. J. Phillips.

During National Health Week the Dental Health Day will be Wednesday, February 3, 1960. Dr. I. F. Calder was elected chairman, assisted by Dr. F. M. Bliss and Dr. W. L. Durant, to act in the interest of this Dental Health Campaign in Brockville.



Left to right: Dr. Sangster Lederman, Dr. Ralph Michell and Dr. Roy Winn.

Photo—Kitchener-Waterloo Record

Inter County Dental Society

The regular meeting of the Inter County Dental Society was held at the Granite Club, Kitchener, on October 21st. Guest of Honour for the occasion was Dr. Sangster Lederman who has been practising in Kitchener for fifty years. Dr. Roy Winn presented Dr. Lederman with his certificate of Life Membership in the R.C.D.S. Dr. Ralph Michell, President of the Society, also presented Dr. Lederman with an engraved desk set on behalf of the Society and the 50 members present. Dr. J. R. Hurton added congratulations on behalf of the R.C.D.S.

In his remarks Dr. Winn pointed out that Dr. Lederman was a charter member of the K-W Kiwanis Club, and has always taken an active interest in church and civic affairs. Dr. Winn emphasized that in the many years he has known Dr. Sangster Lederman he has never heard any complaint or criticism of him, either professionally or otherwise but that everyone who has known him has nothing but praise for his integrity, ability, and friendliness.

Dr. J. Ledger introduced the speaker of the evening, Dr. D. B. McAdam of the Faculty of Dentistry, who made an excellent and stimulating presentation on "Amalgam Restorations." Pointing out that we are sometimes too prone to say "it is just another amalgam," Dr. McAdam went on to demonstrate graphically that amalgam restorations can and should be just as carefully executed and as effective as any other phase of dental practice. Dr. Harry Bobbie expressed the thanks of the meeting for his most informative lecture.

Another visitor at the meeting, Dr. L. D. Haselton, of Saskatoon, Saskatchewan, was introduced by Dr. Michell, and gave a brief but interesting report on the status of dentistry in that province, particularly with reference to the recent Denturist Act.

B.M.J.

QUEBEC

Montreal Dental Club

The thirty-fourth Annual Fall Clinic of the Montreal Dental Club was held in the Queen Elizabeth Hotel on October 28, 29, and 30. Over three hundred registered dentists, as well as a large number of visitors and guests combined to make this year's convention a great success.

Registration began at 8.30 on Wednesday morning and was followed by a series of table clinics from 9.30 to 12.00 noon. Major J. P. R. Guay, R.C.D.C., of Montreal described the use of the surveyor in partial denture prosthesis. Capt. J. C. R. Roy, R.C.D.C., of Montreal discussed bridgework by the indirect method. Dr. Austin Oliver and Dr. Howard Oliver of Montreal presented a clinic on lingual arches for mutilated dentitions. Dr. Louis B. Amyot of Schenectady, New York gave an illustrated discussion on traumatic occlusion of the anterior teeth. Dr. Ernest Ambrose and Dr. Harry Rosen of Montreal discussed recent developments in the manipulation of gold foil. Dr. Eric Millar of Montreal gave a very fine illustrated presentation of the diagnosis and management of soft tissue lesions in the oral cavity. Dr. Harry Slater, M.D., of Montreal described the modern approach to control the difficult adult and child through general anaesthesia. Dr. E. S. Dorion and Dr. E. C. Burbank of Montreal asked, "What are you doing about radiation safety?" Dr. D. Kepron of Montreal discussed the selection of posterior occlusion in prosthetic dentistry. Dr. H. R. Skurnik of Montreal illustrated his talk on the relationship of periodontal therapy to prosthesis. Dr. Roland Lamb of Montreal demonstrated the pin inlay preparation for anterior teeth. Dr. George Dundass of Montreal demonstrated the cementation and occlusal adjustment of gold restorations, and Dr. W. F. Walford of Montreal used teaching aids to demonstrate the varying occlusal wear of various materials, indicating another reason for equilibration. To all our clinicians, many thanks are extended for clinics well prepared and well presented.

Before the noon luncheon, delegates circulated among the exhibitors' booths where they were brought up to date on new equipment, materials and techniques.

Following the luncheon, Dr. Donald Gordon, President of the Montreal Dental Club, introduced our guest speaker, Dr. W. G. McIntosh, President of the Canadian Dental Association. Dr. McIntosh outlined some of the present day requirements of the Association and stressed the need for full time legal and statistical personnel.

The afternoon session began at 3.00 p.m., with Dr. Drexell A. Boyd, D.D.S., of Indianapolis, Indiana, Professor and Chairman of the Department of Operative Dentistry, Indiana University, delivering the keynote essay of the convention entitled, "Operative Dentistry in Modern Dentistry." Dr. Boyd discussed the principles and objectives of Operative Dentistry and how they may be realized with the modern techniques and methods.

From 7.00 to 8.00 p.m. the Montreal Dental Nurses and Assistants were hostesses to a highly successful cocktail party to which all registered doctors, their wives and nurses were invited.

Sessions started at 9.30 Thursday morning with the first of the registered clinics. Six clinics were held twice daily on Thursday and Friday, enabling the delegates to attend the four that interested them most.

Captain J. L. Craig, B.Sc., D.D.S., Instructor in Periodontics, R.C.D.C. School, Camp Borden, Ontario, spoke on "Restorations in Relation to their Effect on the Periodontal Tissues." This clinic dealt with operative and prosthetic restorations as potential causative factors in Periodontal Disease.

Melvin A. Noonan, D.D.S., M.S., of Birmingham, Michigan, Diplomate of the American Board of Pedodontics, based his talk on "Injuries to the Permanent Incisors." He discussed the diagnosis, treatment and prognosis of all types of injuries to the permanent incisor teeth.

Julian J. Thomas Jr., D.D.S., Lt. Cmdr., U.S.N. Dental Corps, Bethesda, Maryland, outlined "The Washed Field Principle." The use of this principle enables the operator to use copious amounts of water during the preparation of teeth for crown and bridge and operative procedures.

Roland W. Dykema, D.D.S., from Indianapolis, Associate Professor of Crown and Bridge Prosthodontics, Indiana University, lectured on "Porcelain Veneers Fused to Gold Restorations." Dr. Dykema opined that recent improvements in materials suggest a greater application of these restorations in the future.

Robert N. Ogilvie, B.A., D.D.S., of Fredericton, New Brunswick, discussed "Class V Ceramic Inlays — Direct." The Clinician presented a detailed study of class V ceramic inlays with photographic illustrations of all phases.

Drexell A. Boyd, D.D.S., of Indianapolis, spoke on "Cavity Preparation for the Amalgam Restorations," discussing principles and methods of cavity preparation and various restoratives.

At 11.00 Thursday morning, following the registered clinics, a general session was held to hear a lecture on "The Differential Diagnosis and Treatment of some Radiolucent

Lesions of the Jaws." The essayist was William B. Donohue, D.D.S., of Montreal, Assistant Professor at the University of Montreal. Dr. Donohue reviewed some of the clinical and laboratory tests of value in the diagnosis and treatment of radiolucent lesions. Clinical cases were presented to illustrate the value and limitations of these aids.

Following the noon luncheon, Mr. Ralph Marven, Vice-President, Editorial Associates Ltd., gave a highly entertaining talk entitled "Public Relations in the Village."

The balance of the afternoon was filled by the registered clinics and the exhibits.

The Supper Dance, now a very popular event of the convention, started at 10.00 p.m., with dancing to the music of Paul Beauregard and his Orchestra until 1.00 a.m. Over one hundred couples were on hand to enjoy the delicious buffet supper and the gay social evening that followed.

Friday, the final day of the convention, began at 9.30 a.m. with the registered clinics. This was followed by a general session at which Dr. Eugene Dorion read a paper prepared by Charles Okun, L.D.S., D.D.S., of Toronto, Ontario. The subject of the essay was "X-Rays, Hazards, Injuries and Controls." The author, who has personally suffered radiation injuries, has done considerable research in this field and he outlined many case reports. Recommendations were presented on how one may avoid these hazards to yourself, your patients and your office personnel.

At the final luncheon, the wives and nurses of many of the delegates were present. Mr. J. J. Beaudet of the Public Relations Department of the Bell Telephone Co. gave a very informative talk on "Direct Distance Dialing."

With the final registered clinics in the afternoon, the Thirty-fourth Annual Fall Clinic of the Montreal Dental Club drew to a close.

To the General Chairman of the convention, Dr. D. Bruce Ward, and to his committees, are extended the sincerest congratulations of all participants for a well organized, informative and very enjoyable convention.

J. D. F.

Société Dentaire de Montréal

La Société Dentaire de Montréal has presented as its guest lecturer for the October monthly reunion, Dr. Philippe Ament from Buffalo.

Dr. Marc Thibault spoke about the current affairs of the Society and introduced Dr. J. P. Lussier, assistant dean of dentistry at the University of Montreal, who made important communications.

Commenting upon the declaration of Dr.

Pauling concerning radiation, Dr. Lussier said that there might be some danger if members of the profession did not take all precautions to protect themselves and their patients.

In general, the dental surgeon is well aware of the procedures involved in avoiding secondary radiation.

Dr. Lussier being conscious of possible dangers, suggested that the Société Dentaire should send bulletins to the press, or give press conferences, so that people could understand that the Dental profession is aware of this problem and all its members are doing their best to eliminate the smallest risk of radiation.

He also suggested that a group of trained investigators should visit dentists' offices to help prevent unnecessary exposure.

Dr. de Montigny advised reference to the C.D.A.'s report of the extensive inquiry on that subject.

Dr. P. Ament was introduced to a vast audience by Dr. R. E. Lussier. Dr. Ament, who propagated hypnotism for twenty years, explained the great progress of that science.

For the dental surgeon or the specialist, it gives more avenues than any drug could offer. Hypnotism allows character understanding and relaxation in the dental chair.

Hypnotism helps eliminate obstacles like saliva, blood, vomiting, contractions, and makes the patient more ready for surgery.

As to rapidity, hypnotism is far superior to any anaesthetic. In ending Dr. Ament emphasized the fact that hypnotism should be used with great discretion and for medical needs only.

C.V.

Montreal Alumni Chapter Alpha Omega Fraternity

The annual dinner-dance opening the 1959-60 season of Alpha Omega Fraternity, Montreal Alumni Chapter, was held on Oct. 17, 1959, at the Queen Elizabeth Hotel. Guest of honour was the national president, Dr. David Dyen of Philadelphia. Dr. Dyen was introduced by the regent, Dr. Harry Landsberg of Toronto, who acted as master of ceremonies for the occasion. Dr. Dyen spoke about the status of dentistry in Israel, having been invited to attend the first graduation ceremony of the Israeli Dental School, August, 1959.

One of the highlights of the evening was the conferring upon Dr. Herbert Caplan an honorary membership in the Montreal Alumni Chapter by president Dr. Fred Vosberg. Dr. Caplan has been outstanding in his zeal for Alpha Omega and was the inspiration behind the formation of the undergraduate chapter at McGill and University of Montreal Dental Schools.

Plans were also finalized with the national treasurer to hold the annual convention at the Queen Elizabeth Hotel in 1961.

On October 20, 1959 at the office of Dr. Robert Cohen, simultaneous clinical demonstrations were given by Drs. Harry Rosen, Beryl Mendel, and Sydney Hornstein.

Dr. Rosen demonstrated a copper band impression technique for full crowns using deitrichs, and a rubber base tray impression technique using neoplex.

Dr. Mendel ably demonstrated gingivectomy and osteoplasty on the lower anterior teeth.

Dr. Hornstein removed an impacted cuspid lying palatally.

This clinical session was very well attended and great appreciation of the clinicians was manifested by those present.

M.G.

SASKATCHEWAN

Saskatoon & District Dental Society

The regular monthly meeting of the Saskatoon and District Dental Society was held Tuesday, October 13th. Reports of progress made by the various committees for the C.D.A. convention in Saskatoon in 1961 were given.

Dr. H. Cowburn was elected to the office of Vice-president which was left vacant by the death of Dr. Shirley Locke.

Refresher Course

On October 23rd and 24th, a refresher course in Pediatric Dentistry was held in Saskatoon. The guest clinician was Dr. M. M.

Cohen of Boston. Attendance was excellent with approximately sixty dentists from various points in the province present.

Dr. Cohen spoke on a variety of subjects including growth and development of the jaws and dentition, prenatal influences upon the dentition, prophylactic orthodontics, involved deciduous teeth.

Questions were numerous throughout the lectures and there was an organized question period at the conclusion of the lectures. Interest was high during the course and all who were present gained tremendously from Dr. Cohen's wealth of knowledge.

A cocktail party and dinner was held on the 23rd with the dental wives in attendance. The superintendent of the Saskatoon public schools, Mr. F. Gathercole, was guest speaker. His topic was "The Present-day Crisis in Education," a very interesting and timely topic.

The guest speaker was thanked by Dr. Lorne Clark of Conquest.

College of Dental Surgeons

Officers elected for the year 1960 were: President, Dr. R. O. Brett; Vice-President, Dr. J. J. Schachter; and Secretary, Dr. F. R. Smith.

Members of the College are: Dr. D. Leask, Moose Jaw; Dr. R. O. Brett, Regina; Dr. Ben Bookhalter, Regina; Dr. J. J. Schachter, Saskatoon; Dr. W. L. Clark, Conquest; Dr. N. T. Godfrey, Prince Albert; Dr. F. S. W. Green, North Battleford; and Dr. F. R. Smith, Saskatoon.

Appreciation for outstanding services rendered by a retiring member from the College—Dr. W. Watchler, of Yorkton, was recorded in the minutes. Dr. Watchler has served the Council, the profession and the public in a most excellent capacity for a great many years. Newly elected to the Council are Dr. N. Godfrey and Dr. L. Clark. To these gentlemen, a cordial welcome was extended.

L.D.H.

"The rung of a ladder was never meant to rest upon, but only to hold a man's foot long enough to enable him to put the other somewhat higher." — Thomas Henry Huxley.

GENERAL NEWS

Medical Tuitions

Average annual tuition fee for U.S. medical colleges has increased 114% since 1939, with 32% of increase coming between 1950 and 1956. In the same 6 year period, average family income jumped 30%, and the cost of living index rose 16.9%. Some schools consider raising fees again.

Glue Sucking

A new and deadly teenage fad is "glue sucking". Youths squeeze airplane glue into a handkerchief, then place the glue-filled handkerchief in the mouth and slowly inhale and swallow the "glue juice." Addicts appear intoxicated. Doctors say continued use could result in blindness, paralysis and even death.

Practice Trends

Chicago University's director of population research expects explosive population growth in the U.S. to accelerate trend toward group practice. He also sees medical practice becoming even more concentrated in metropolitan centres, but more decentralized within those centres, following the population into suburbia, exurbia and interurbia.

Dental Laboratory Relations

In accordance with a recommendation of the Council on Dental Trade and Laboratory Relations, the 1959 House of Delegates adopted the following definitive policy statement aimed at the legislative efforts of certain non-dentists including the self-styled "denturists":

"Resolved, that the efforts of untrained and unqualified persons to gain a limited or an unqualified right to serve the public directly in the field of dental practice be opposed as detrimental to the health, safety and welfare of the public."

The House also supported the Council's recommendation opposing enactment of occupational licensure and registration statutes for dental laboratories and technicians.

A.D.A. Appointments

Appointment of two men as members of the staff of the Council on Dental Therapeutics of the American Dental Association has been announced by Dr. Harold Hillenbrand, secretary.

The new staff members, who will be located

in the Association's central office in Chicago, are:

—Dr. Leland C. Hendershot, named assistant secretary of the Council.

—Dr. John J. Hefferren, director of the Division of Chemistry.

President Signs Bill Authorizing Health Coverage for U.S. Employees

Legislation authorizing medical care and hospitalization insurance for Federal employees has been approved by President Eisenhower. Under the new law (P.L. 86-382) which becomes effective July 1, 1960, an employee of the Federal government may enrol in a health benefits plan approved by the Civil Service Commission either as an individual or for himself and his family. The law provides that the government will pay 50 per cent of the premium up to prescribed limits. Inclusion of dental benefits within approved health benefits plans would be permissible under language of the law. However, due to budget restrictions, it is believed benefits will be limited primarily to acute medical and surgical procedures involving the oral tissues — so-called oral surgery benefits.

Dr. Bremner, Dental Historian and Lecturer, dead at 79

Dr. M. D. K. Bremner, dental historian and lecturer, died recently at the age of 79. He made his home in Brookline, Mass. Dr. Bremner, author of the well-known History of Dentistry, formerly was secretary of the ADA History Committee and special lecturer on dental history at Tufts University School of Dental Medicine. He also served 12 years as chairman of the Association's Process Patent Committee. As president of the Dentist Protective Alliance, Dr. Bremner was instrumental in overthrowing the Taggart patents on a gold inlay method, thus paving the way for a new era in operative dentistry. He was a life member of ADA.

43,000,000 Drink Fluorides

There are 43,000,000 people in the United States drinking fluoride water. Of these, 7,000,000 drink water that has the fluoride naturally. The other 36,000,000 get water treated with fluorides to protect the teeth.

Dr. John Knutson, assistant surgeon of the public health service of the United States, says that 1,830 communities add fluorides to the drinking water. And in 2,000 communities the fluoride is in the water naturally.

IN MEMORIAM

John Alexander Cameron — Dr. John A. Cameron of West Vancouver died suddenly on October 3 at the age of 55.

He was born in Poplar Creek, B.C. and took his dental course at Creighton University, Omaha, Nebraska.

Following graduation in 1929 he began practice at Joyce Road and Kingsway in Vancouver and moved to West Vancouver in 1947.

During his college days Dr. Cameron played professional baseball with the Western League and once played against Babe Ruth. He was a member of the Capilano Golf Club.

Surviving are his widow Ruth and two daughters at home, also three brothers and a sister.

Merton Clair Tindale — Dr. Merton Clair Tindale of Hamilton, Ontario, died on October 21, 1959, following an illness of several months.

Dr. Tindale was born in Bruce County, Ontario. He graduated from the R.C.D.S. in 1913 and practised in Milverton for several years. He had practised for forty years in Hamilton.

Dr. Tindale was a member of the Unity Lodge No. 47, I.O.O.F., and the Masonic Lodge A.F. & A.M., No. 61 of Hamilton.

Surviving are his widow Carrie; a brother, Charles, and two sisters, Mrs. V. Dobie and Mrs. E. Bolton.

William Anderson Dalrymple — Dr. William Anderson Dalrymple of Toronto, died on October 31st. He was 72.

He was born in 1886 at Wellandport and received his early education at Presley, graduating from the University of Toronto in 1908. Dr. Dalrymple practised for 44 years in Toronto.

In 1958 he was made an Honorary Member of the Royal College of Dental Surgeons of Ontario.

He is survived by his widow, Rose, a son, William, a sister, Mrs. F. Page, and a brother, Andrew.

Alfred Henry Smallwood — Dr. Alfred Henry Smallwood of Souris, Prince Edward Island, died recently.

Dr. Smallwood was born at Dartmouth, N.S., and graduated in dentistry from the University of Maryland (Baltimore C.D.S.) in 1905.

Edwin Harold Hewitt — Dr. Edwin Harold Hewitt of Lanark, Ontario, died on September 24th following a lengthy illness. He was 60 years of age.

Dr. Hewitt was born in Ninga, Manitoba, in 1899 and received his early education there. In 1926 he graduated from the Faculty of Dentistry, University of Toronto and set up practice in Lanark. He was always interested in the affairs of dentistry to which he devoted most of his time. From 1936 to 1937 Dr. Hewitt was Chairman of the Board of Education in Lanark.

He is survived by his widow Della, two sons, William and Robert; one daughter, Jean; two brothers, Dr. Joseph and Norman, and three sisters, Ethel, Annie and Edith.

ANNOUNCEMENTS

Conventions of the Canadian Dental Association

1960	Ottawa, Ontario	Sept. 25th-28th
1961	Saskatoon, Saskatchewan	June 4th-7th
1962	Vancouver, British Columbia	June 3rd-6th

1967	Toronto, Ontario	May
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(Centennial Celebration
of Dentistry in Canada)

FUTURE EVENTS

Date	Function	Location	Officer	Address
May 12, 13, 14, 1960	B.C. Dental Ass'n. Annual Convention	Empress Hotel, Victoria, B.C.	Dr. W. R. Upton,	217 Medical-Dental Bldg., Vancouver 1.
May 15-18, 1960	Ontario Dental Association Convention	Royal York Hotel, Toronto, Ont.	Mrs. A. Durham,	230 St. George St., Toronto 5, Ont.
Oct. 12-15, 1960	42nd Annual Meeting American Society of Oral Surgeons	Westward Ho Hotel, Phoenix, Arizona	Dr. D. C. Trexler, Exec. Sec.,	840 North Lake Shore Drive, Chicago 11, Ill.

UNIVERSITY OF TORONTO POSTGRADUATE COURSE IN PAEDODONTICS

A two day postgraduate course in Paedodontics will be presented at the Faculty of Dentistry, University of Toronto, Toronto, January 11 and 12, 1960. The course will be under the general direction of Prof. S. A. MacGregor and emphasis will be given to a discussion of practical methods of preventing malocclusion.

Tuition Fee \$40.00

Enrolment Limit 10.

Address enquiries to: The Chairman, Div. of Postgraduate Studies, Faculty of Dentistry, 124 Edward St., Toronto 2, Ont.

UNIVERSITY OF ALABAMA SCHOOL OF DENTISTRY

Three refresher courses: Management of Advanced Periodontal Disease—Feb. 6, 7, 1960.

Removable Orthodontic Appliance Construction—
Feb. 13, 14, 15, 1960 (limited to orthodontists)

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Traitement antibiotique des parodontopathies*‡

par Paul Couturier, Aix-les-Bains (Savoie)

(suite)

En résumé, le concept de l'entérococcie semble dépassé par les objections suivantes:

- a) "Tout strepto-entérocoque est une espèce commune au tractus digestif tout entier et retrouvé aussi bien dans le liquide buccal que dans les selles du malade. Les bactéries communes à la bouche et à l'intestin sont particulières aux germes acidophiles: ces bactéries intestinales traversent facilement le liquide gastrique.

Il est absolument impossible de distinguer si la souche entérococcique vient de l'intestin par voie hématogène, ou si elle provient réellement du liquide buccal" (PERET).

- b) Si la pyorrhée est une métastase gingivale secondaire d'un foyer primaire entéropathique, la bactériémie est obligatoire (ROBERT). Les germes circulant dans le sang, on devrait les retrouver en chemin:

—or les hémocultures pratiquées par ponction veineuse (pli de coude) sont toutes négatives. (HELD).

- c) SIMARD pratique, suivant la technique rigoureuse de R. VINCENT, de nombreuses cultures gingivales chez des sujets *normaux*, ainsi que chez d'autres porteurs de gingivites ou parodontoses. L'hémoculture est *toujours positive* avec des germes aérobies Gram + (strepto, staphylo, puis entérocoque, tétragène, pneumocoque) alors que R. VINCENT affirme:

"Les hémocultures gingivales prati-

*Conférence donnée à l'Université de Montréal, le 24 septembre 1959.

‡Le début de cet article paraît dans la livraison de novembre 1959.

quées sur un sujet à gencives *cliniquement saines* sont *invariablement négatives*."

d) Tout colitique n'est pas obligatoirement un pyorrhéique. Si la transmission mécanique des germes existe dans le sens dents — anus, elle ne permet pas le chemin inverse (SEIKEVITCH)

e) Conditions de culture:

VINZENT reproche à R. VINCENT d'ensemencer les microbes de la bouche "dans du bouillon, sous huile de vaseline, ce qui n'est pas une méthode pour cultiver les anaérobies".

PRETET reproche à VINZENT de se placer dans des conditions de culture trop spéciales inapplicables en pratique courante. "les ensemencements, apparemment corrects, seraient contaminés par des éléments strictement anaérobies provenant de surinfection locale ou de voisinage.

Le bouillon glucosé phosphaté et le milieu anaérobie de CARRAZ expliqueraient les résultats totalement négatifs."

f) Impossibilité de nier ou d'affirmer la relation possible entre les germes observés à la surface muqueuse et ceux prélevés à l'intérieur par ponction aseptique (HELD).

g) Cultures moins abondantes si la muqueuse est stérilisée à la teinture d'iode plutôt qu'à l'alcool. (HELD).

h) Enfin, s'il y a essaimage microbien dans la gencive, pourquoi ne se ferait-il pas dans la rétine, territoire lui aussi à vascularisation terminale?

De cette controverse doctrinale découle un corollaire thérapeutique. Quelle valeur revêt la vaccinothérapie (spécifique ou—désensibilisante)?

Elle semble infiniment séduisante, car "il semble préférable, d'après PERET, d'améliorer le terrain pour faire naître une résistance grâce la vaccination plutôt que d'employer un antibiotique quelconque dont l'action cesse immédiatement dès sa disparition.

Suivant les théories de l'unicité ou de l'hétérogénéité bactérienne, on pourrait employer:

- soit l'auto-vaccin monovalent;
- soit l'auto-vaccin polyvalent (complet ou stock);
- soit l'association des deux.

a) L'auto-vaccin monovalent serait idéal, car en matière d'immunité, seul l'auto-vaccin réalise à la fois la spécificité de l'espèce et de la souche. Dans une même espèce sont groupés tous les clones identiques ou voisins, le clone ou souche étant (d'après WEBER 1903) "l'ensemble de tous les individus descendus d'un individu unique par division directe ou assexuée" (scissiparité et sporulation). "L'auto-vaccin nous a donné des résultats si remarquables, écrit R. VINCENT, que nous avons décidé d'en faire la base de traitement général de la pyorrhée." Nous épouserions sa conviction à deux conditions:

—que le strepto-entérocoque soit vraiment le germe causal; peut-on l'affirmer si les investigations n'ont pas été poussées du côté des anaérobies associés?

—que ce strepto-entérocoque ne présentât pas de phénomène de mutation; or le strepto-entéro, germe du tractus digestif, mute très fréquemment: la souche isolée n'est plus la même trois mois après.

Il faudrait donc renouveler l'auto-vaccin monovalent au moins tous les trois mois.

b) L'auto-vaccin polyvalent complet est délicat à réaliser: cela a trait à la nature même de la flore de VEILLON (fragilité des Ristella, difficulté de conservation des Treponema). Seuls quelques grands laboratoires peuvent le réaliser dans un minimum de temps. L'auto-vaccin polyvalent-stock ne résout pas le problème: il est spécifique pour les espèces microbiennes, mais non spécifique pour les souches.

c) Reste la dernière solution, d'associer auto-vaccin stock (anaérobie) et monovalent (aérobie).

N'oublions pas, rappelle encore PERET, que seuls donnent de bons résultats les vaccins-stocks à antigènes

communs avec les germes des ponctions gingivales.

C'est remettre en cause la valeur des hémocultures, mixtes ou en aérobiose stricte.

Et si ces ponctions sont négatives?

Cette association monovalent-stock crée d'ailleurs une sensibilisation déterminant un phénomène de choc protéinique léger, à effet curateur.

Et puisque du point de vue clinique on obtient les mêmes résultats par des méthodes qui paraissent opposées (monovaccin aérobie, polyvalcin anaérobie), il est alors permis de se demander, avec LATTES, si ces traitements biologiques n'ont pas de base autre que le germe lui-même, c'est-à-dire une base uniquement protéinique: il ne faudrait plus parler alors de vaccinothérapie, mais de protéinothérapie désensibilisante, autrement dit de thérapeutique de choc assimilable aux Protéoses de Novotny.

EN RÉSUMÉ:

L'image bactérienne de la pyorrhée est, non définie et immuable, mais autochtone et fonction de l'intensité de l'affection: *il y a peut-être et souvent de l'entérocoque, mais il n'y a pas que de l'entérocoque et il n'origine pas que de l'intestin*: car, s'il en était ainsi, l'auto-vaccin suffirait à la thérapeutique de la pyorrhée.

Or, il n'y suffit pas, pour la bonne raison qu'il y a d'autres germes en cause, mis en évidence par l'ensemencement complet (et non fractionnaire): ces germes sont complexes (de par leurs caractères morphologique), divers quant à leur physiologie (aérobies ou anaérobies), variable quant à leur virulence pathogène (colonies isolées ou en association), difficiles quant à leur identification (nombreux synonymes et non moins nombreuses classifications: SHERMAN, SEELEMAN, ROMER, BERGEY, LANCEFIELD . . .) et le Prof. WARD reconnaît 25 espèces microbiennes.

La vaccinothérapie (ou plutôt la protéinothérapie) semble plus biologique, elle est théoriquement souhaitable. Pra-

tiquement elle n'est pas toujours réalisable dans la généralité des cas—l'image bactérienne de la pyorrhée n'est pas unique et constante, mais complexe et variable.

—tous les odontologues n'ont pas sous la main, ou à proximité, un laboratoire pouvant fabriquer un auto-vaccin;

—tous les pyorrhéiques ne sont pas partisans du vaccin (question de temps, de pusillanimité, de préjugés ou de finances).

La vaccinothérapie possède certes à son actif pour VINCENT, PRETET, ROBERT en France, FERNEX et GUILLERMIN en Suisse, des résultats spectaculaires, mais il paraît difficile d'opposer uniquement le pouvoir de l'auto-vaccin au facteur infectieux polymorphe. Et Jarricot (de Lyon), pourtant fervent adepte de la vaccinothérapie, résume son expérience en ces termes: "Si, souvent le vaccin nous est apparu un appoint précieux, ce n'est qu'exceptionnellement que nous avons vu un état gingival se transformer en peu de temps, un état général se modifier rapidement et profondément."

La vaccinothérapie souhaitable serait celle obtenue par prélèvement *mixte* (écouvillonnage des clapiers, hémoculture gingivale) et culture en milieu *mixte* (placenta sexé, broyat gingival embryonnaire).

Cette hypothèse personnelle réunirait les avantages de la méthode vaccinale (GOLDENBERG, R. VINCENT, VINZENT et LEHMANS) de la placentothérapie et de la cellulothérapie.

Si la modification du terrain par le vaccin s'avère inconstante, reste le recours à la lutte contre le germe lui-même; cette dernière méthode curative est l'antibiothérapie.

Apparaît-elle supérieure à la vaccinothérapie? A priori, oui, puisque des affections graves, et qui aboutissaient rapidement à l'issue fatale, *malgré le vaccin* et malgré les sulfamides, ne le sont plus depuis l'avènement des antibiotiques.

Il semble que cette supériorité théorique de l'antibiothérapie jouissant d'un préjugé favorable se retrouve en matière de

parodontologie, compte tenu des éléments restrictifs relevés jusqu'ici.

a) si le polymicrobisme de la cavité buccale est très grand, par contre l'image bactériologique de la parodontose est *moyenne*. Elle comprend 7 ou 8 variétés courantes:

4 ou 5 aérobies: streptocentéro, staphylo, diplo pneumonice

3 ou 4 anaérobies: protozoaires spirochètes, associées ou non aux spirilles

Borrélias

Tréponèmes.

Autrement dit, à cette gamme bactérienne moyenne lui opposer un antibiotique dont le spectre d'action *moyen* se superpose le plus exactement car nous l'avons vu, plus le spectre est grand, plus les risques sont grands.

b) si les affections parodontaires mineures (parodontites superficielles ou profondes) sont justiciables d'application *locale* d'antibiotique, la véritable *parodontose*, dépendante de l'état général et entrée dans le cadre de la médecine générale semble relever d'une antibiothérapie *générale* par voie orale.

c) la recommandation classique en matière d'antibiothérapie générale "frapper vite, fort et suffisamment longtemps" joue en matière de parodontologie, avec des modalités du fait que l'infection pyorrhéique se caractérise par sa *chronicité*; et qu'il faut lui opposer un antibiotique actif sur les germes résistants aux autres antibiotiques.

Là se posent donc les questions:

—d'indication

—du mode d'administration.

VI—DÉLIMITATION DES INDICATIONS.

Faut-il appliquer indistinctement l'antibiothérapie à tous les états parodontopathiques?

Certes non.

Les indications apparaissent bien précises.

a) dans les états gingivaux mineurs (gingivites, stomatites ulcéreuses), accidentels ou épisodiques, l'antibio-

thérapie de contact peut rendre des services. Mais là déjà un choix s'impose:

—Préférence sera donc donnée à quelques antibiotiques locaux, agissant uniquement par voie externe:

Bacitracine

Thyrotricine

Framycétine

et qui ne se sont pas révélés allergisants.

—Proscrire l'emploi de la *Pénicilline G. locale* dont les effets secondaires ont été maintes fois dénoncés:

"les applications locales favorisant les phénomènes d'intolérance cutanée et muqueuse, les associations médicamenteuses accroissent le danger" (Prs TREFOUEL et CHEYMOL, *Thérapie* No. 9 — 1954)

"la Pénicilline de surface est inférieure aux antiseptiques classiques" (CASPAGNOLA et SPATI — 1951).

"si la toxicité primaire de la Pénicilline G est faible, les accidents secondaires sont fréquents:

—oedème de la glotte déclenché par une injection intramusculaire après suçage de pastilles dosées à 20,000 unités.

—crise asthme dramatique déclenchée par une même piqure après aérosol de Pénicilline G. (Pr. L. PERROT).

—enfin, même les antibiotiques dans les dentifrices peuvent provoquer des accidents de sensibilisation (ESTEBAN, BIOCALTI: Congrès des Antibiotiques à Buenos-Aires).

—les Pénicillines O et V apparaissent moins allergisantes.

b) dans les états parodontosiques à infection profonde, tenace et rebelle, "les foyers chroniques sont difficilement atteints par le traitement antibiotique général alors que les applications locales peuvent donner de bons résultats" d'après le Pr. HELD. Cependant, il nous semble personnellement que l'antibiothérapie *générale* par voie *orale* d'un certain antibiotique à spectre restreint ait davantage de chances de succès de par sa grande

diffusibilité et son action rapide sur les foyers torpides.

Mais, même dans ces cas de parodontose *vraie*, l'antibiothérapie ne doit être réservée qu'aux cas de:

—complications aiguës localisées à évolution douloureuse.

—complications aiguës avec pyrexie traduisant l'atteinte de l'état général (Pr. HELD).

—parodontoses anciennes ayant résisté aux thérapeutiques usuelles ou rebelles à d'autres traitements (DALIGAND).

VII—PRÉCAUTIONS AVANT ET PENDANT L'ANTIBIOTHÉRAPIE

Trois impératifs catégoriques s'imposent:

- a) —identifier le germe pathogène spécifique par l'Antibiogramme, le *laboratoire permettant* ainsi l'antibiothérapie *dirigée* et non approximative.
- b) —s'appuyer sur la *clinique*
- c) —respecter l'équilibre microbien normal et vitaminique.

I—PRINCIPE ET TECHNIQUE DE L'ANTIBIOGRAMME

"le principe de l'antibiogramme *préalable* à tout traitement a une valeur *absolue* dans les infections chroniques" (G. CONSTANT). Il sera établi soit à partir de la culture d'une gouttelette sanguine recueillie aseptiquement par piqûre de la languette gingivale (LEBOURG), soit à partir de prélèvement direct aseptique du germe.

Le laboratoire dispose de trois techniques d'identification:

- a) Méthode classique des *disques* de Y. CHABBERT (Inst. Pasteur) le germe étant ensemencé sur gelose, les antibiotiques sont répartis sur des cupules ou des disques de papier. Après culture, chaque cupule ou disque est entouré d'une zone d'inhibition; le diamètre de cette zone permet d'apprécier la sensibilité du germe aux divers antibiotiques.
- b) Technique des *stries* de VAKSMAN le germe à étudier est ensemencé à

la surface de plusieurs boîtes de gelose contenant des quantités croissantes d'antiques. On lit la plus petite concentration qui inhibe la pousse du germe.

- c) Méthode de dilutions en milieu liquide la détermination de la sensibilité d'un germe à un antibiotique est faite par la lecture de la dose minima qui, dans une gamme de cet antibiotique en milieu *liquide*, inhibe la pousse du germe.

II—L'antibiogramme donnera l'indication de l'antibiotique.

—Cette indication n'a pas une valeur absolue, mais *relative* (J. CIBERT).

Il importera donc de tenir compte du malade autrement dit de s'appuyer sur la *clinique*.

—rigueur médicale du diagnostic (F. de MOURGUES)

—interrogatoire du malade: antécédents par anamnèse réactions individuelles.

—collaboration avec le médecin traitant (antibiothérapie différente si le patient est diabétique, rénal, présente une affection sanguine, un R.A.A. ou est un cardiaque valvulaire.)

—enfin doit être institué un Hémogramme complet (numération globulaire, formule sanguine, vitesse de sédimentation).

Ces divers éléments permettent d'apprécier l'importance de l'affection et de proportionner l'antibiothérapie qui lui sera opposée.

III — Ne jamais oublier de prévenir le déséquilibre possible de la flore utile buccale ou intestinale, ou la carence vitaminique et pour cela, associer à l'antibiotique:

l'ultra levure de bière,
la pyridoxine (vitamine B₆)
les ferments lactiques.

Si malgré ces précautions apparaît la moniliase bucco-pharyngée ou la mélanoglossie (prolifération de candida albicans par déséquilibre biobactérien), administrer un fongicide polyvalent atoxique: Mycostatine, à raison de 3 à 6 dragées par jour (dosées à

500,000 unités) pendant 4 à 5 jours, à sucer lentement.

VIII—SÉLECTION DES ANTIBIOTIQUES

(Préférence donnée à la SPIRAMYCINE)

—Dans les cas de parodontose aiguës, sévères, avec altération de l'état général et pyrexie, il est évident qu'on doit parfois commencer le traitement immédiatement sans attendre le résultat du laboratoire (dépistage du germe en cause).

La Spiramycine s'avère alors un médicament de choix, lorsqu'il s'agit d'une affection à cocci probable (ce qui est le cas de l'infection pyorrhéique); elle agit aussi bien, sinon mieux que n'importe quel autre antibiotique; elle est administrée facilement par voie orale; son spectre n'est pas trop étendu: peu de dangers d'effets seconds (G. CONSTANT).

—Dans les cas chroniques, généralement aucun doute ne subsiste quant au choix de l'antibiotique: la SPIRAMYCINE.

I) Caractéristiques de SPIRAMYCINE

Toxicité: très peu toxique par voie orale et atoxique aux doses usuelles (LABARTHE)

Tolérance: presque parfaite

Activité germicide (marquée et plus rapide in vivo qu'in vitro)

Action nette sur germes Gram +.

(Les germes pathogènes sont très sensibles, les saprophytes un peu moins).

Action moins nette sur les mycobactéries et les germes Gram —.

Résistance spécifique (spiramycine-résistance): très faible.

Résistance croisée: pas de résistance croisée avec la plupart des autres antibiotiques (sauf une légère avec érythromycine et carbomycine)

Elle est donc active sur les germes résistants aux antibiotiques usuels (et particulièrement sur le staphylocoque).

Concentration hématique: Après administration unique de 2 grammes, elle atteint 3 mgr/ml à la 3e heure.

2 5e

1.5 8e

le taux est encore décelable à la 20ième heure.

L'action bactéricide se faisant aux taux humoraux habituels de 1 à 5 mgr/ml, cette longue présence de l'antibiotique dans le sang facilite le traitement, en permettant de réduire le nombre de prises.

— enfin l'administration par voie orale supprime les piqûres désagréables et permet le traitement ambulatoire.

Peu sensible au suc gastrique, elle a un avantage certain sur d'autres antibiotiques rapidement détruits par le suc gastrique.

II — PLACE DE CET ANTIBIOTIQUE PARMI LES AUTRES (d'après LABARTHE)

a) activité:

Par ordre d'activité décroissante:

SPIRAMYCINE

Néomycine

Chloramphénicol

Auréomycine

Terramycine

Streptomycine

Pénicilline

b) Tolérance:

Tolérance stomacale: fréquents accidents digestifs graves avec l'Auréomycine, Terramycine;

très peu d'accidents pour Spiramycine (6% de troubles digestifs mineurs, 1% d'intolérance gastrique) (DARBON et CROSNIER).

Tolérance intestinale: — troubles intestinaux fréquents avec Auréomycine, Terramycine, Chloramphénicol, Tétracycline.

— la Spiramycine respecte parfaitement la flore utile (coprocultures négatives) il n'est donc pas nécessaire d'ajouter des Vitamines B. au traitement (Labarthe).

c) Toxicité:

Accidents sanguins: 0

Accidents neurologiques: 0 (ni centraux, ni périphériques)

Accidents rénaux: 0

Accidents hépatiques: 0

Accidents allergiques: 0

RÉSUMÉ

Par comparaison aux autres antibiotiques, la SPIRAMYCINE arrive en tête pour son activité

au dernier rang pour la toxicité
pour les réactions allergisantes
pour la modification de la flore microbienne utile

pour la résistance spécifique et croisée.

Ces multiples avantages peuvent la faire considérer comme l'antibiotique actuellement le meilleur, d'avenir et de sécurité.

Voilà pourquoi logiquement nous avons sélectionné, adopté et préconisé en parodontologie cet antibiotique récent d'origine française.

Résultats dans les parodontopathies: après 3 ans d'expérimentation (DALIGNAND)

disparition du fœtor oris et de l'halitose; avec parallèlement: régression rapide et

disparition de la suppuration, disparition des abcès serpigneux fistulisés,

décongestion gingivale avec reprise de tonicité normale,

consolidation de la dent,

constance et stabilité des résultats,

amélioration durable ayant tendance à augmenter avec le temps (HESS).

IX — POSOLOGIE PRATIQUE

Sur le plan général:

Par sécurité, le traitement doit être poursuivi 2 à 4 jours après la disparition de tous les signes cliniques et 8 jours après la chute de 8°, aux doses moyennes de 2 à 3 gr. (LAMARTHE).

La Spiramycine (3486 R.P.) est présentée sous forme de comprimés dosés à 0.25 gr. et commercialisée sous le nom de ROVAMYCINE en France et PROVAMICINA à l'étranger.

Sur le plan parodontologique

— PELLERAT et DALIGAND, qui ont été les premiers à l'introduire et à la

prescrire, indiquent le protocole suivant (1956):

a) dans les cas chroniques: 0.5 gramme par jour (1 comprimé matin et soir) pendant 20 jours consécutifs.

b) dans les cas à suppuration très accusés: 0 gr. 75 (3 comprimés) pendant 8 jours.

0 gr. (2 comprimés) les 15 jours suivants.

c) dans les lésions fortement inflammatoires et congestives associer pendant les 6 premiers jours de la Delta-Cortisone (Cortancyl) à raison de 5 comprimés (dosés à 5 mmgr.) par 24 heures.

— Posologie de HESS (décembre 1958) 0.5 gramme (2 comprimés par jour) pendant 15 jours.

— COUTURIER (mai 1958) préconise, dans les parodontopathies sérieuses et récidivantes, 3 cures de 15 jours consécutifs chacune, espacées de un à plusieurs mois.

Dose quotidienne: 1 gr. par jour (4 comprimés) à soit:

1 comprimé à 8 h.

1 " 12 h.

1 " 17 h.

1 " coucher

à avaler chaque fois avec une am-poule d'ultra-levure et un comprimé de Vitamine B₆ (Becilan). Dans les cas de moniliase (mélanoglossie) ne pas oublier d'associer la mycostatine (3 à 6 dragées par jour pendant 4 à 5 jours) à sucer lentement.

X — CONCLUSION GÉNÉRALE

La parodontose, fléau social et maladie de la civilisation, apparaît justiciable d'une des dernières découvertes de cette même civilisation.

L'odontothérapeute moderne n'a pas le droit de s'en désintéresser car "un odontostomatologue qui ne connaît que les Techniques de sa spécialité est bien moins savant qu'il ne croit: il n'est pas un bon spécialiste" (Antonio Paul).

La pathologie du parodonte n'est pas univoque: mais, à côté du fait vasculaire,

du fait osseux, des troubles endocrino-sympathiques existe une constante: l'infection polymicrobienne, autochtone et variable contre laquelle la seule vaccinothérapie (spécifique ou désensibilisante) s'avère impuissante.

A cette thérapie biologique peut être associée ou préférée dans certains cas une autre thérapie biologique, très efficace: l'antibiothérapie à spectre moyen, superposable au spectre lui aussi moyen de l'antibiogramme pyorrhéique.

L'antibiothérapie présente malgré tout un passé récent; l'expérience manque. Pour apporter la preuve de sa supériorité sur les autres techniques anti-infectieuses, il faudra encore verser à son dossier des arguments, non seulement cliniques, mais anatomo-pathologiques, radiologiques et bactériologiques (Pr. S. PALAZZI). Elle est, momentanément, comparable à la boule de PASCAL qui, au fur et à mesure qu'elle roule et que son volume s'accroît, augmente aussi ses points de contact avec l'inconnu. Elle ne peut actuellement remplacer les procédés éprouvés, et l'on doit encore travailler à préciser scientifiquement les conditions de son intégration dans les techniques classiques (Pr. S. PALAZZI).

Ses interférences sont loin d'être éliminées:

- les unes restent redoutables: effets seconds insoupçonnés, imprévisibles ou désarmants.
- d'autres peuvent réserver d'heureuses perspectives dans l'avenir: l'action antibiotique semble doublée parfois d'une action catalysatrice, permettant au malade de récupérer rapidement son Tonus psychique et physique normal (C. LABARTHE), d'augmenter sa courbe staturale, pondérale et de croissance (WETZEL-LUECKE, SAIMI). De MICHELIS fait remarquer à ce propos que les souches d'extraction de la vitamine B₁₂ (préparée à partir des cultures du *Streptomyces* (griseux de RICKES) sont les mêmes que pour la production de *streptomycine* mais ceci ne peut expliquer cela.

Donc actuellement (puisque l'antibiothérapie est en constante évolution), la plus grande prudence s'impose:

- dans la psychologie du thérapeute: tendance à la facilité de prescription, éviter l'abus pas excès ou erreur d'indication, éviter l'abus dans l'instauration du traitement, éviter l'abus dans la poursuite du traitement, (JAMBON et BERTRAND-Montpellier 1956)
- dans la psychologie du malade, lequel exige l'antibiothérapie sur la foi de publicités ou de vulgarisations et qui associe la terminaison "cine" à une panacée miraculeuse.
- les antibiotiques restent *dangereux*: effets primaires par toxicité effets secondaires par intolérance sensibilisation, résistance, dépendance
- la responsabilité de l'odontothérapeute est *engagée*: il doit employer l'antibiothérapie à *bon escient* (J. BERCHER):
- en respectant préalablement: l'interrogatoire l'examen clinique les données hématologiques l'antibiogramme.
- en préférant l'administration par voie orale,
- en dosant la posologie nécessaire, non abusive,
- en équilibrant les possibles carences vitaminiques ou perturbations des flores utiles,
- en rejetant l'emploi systématique pour ne le réserver qu'aux cas graves ou sérieux, ou à ceux dans lesquels ont échoué les traitements locaux et généraux classiques ou usuels.

Dans ces cas bien délimités et sous ces réserves, l'antibiothérapie peut apporter de légitimes succès contre peu de risques.

Cette importante question doit être traitée en priorité au prochain Congrès de l'ARPA Internationale, à Wien en 1960, et permettra peut-être de rechercher un

antibiotique de plus en plus spécifique, à spectre restreint, atoxique et de complète tolérance.

Notre contribution présente n'a donc qu'une valeur *préliminaire* et provisoire

en ce qui concerne une thérapeutique *co-adjuvante, complémentaire* du traitement *classique* et *local*, et qui doit rester jusqu'à preuve du contraire une thérapeutique *d'exception*.

Société dentaire de Montréal

La Société dentaire de Montréal a présenté comme conférencier invité à sa réunion mensuelle d'octobre à l'Université de Montréal, le Dr Philippe Ament, de Buffalo.

Le Dr Marc Thibault nous fit part des affaires courantes de la Société puis présenta le Dr J.P. Lussier, vice-doyen de la faculté de Chirurgie Dentaire de l'Université de Montréal, qui avait une importante communication à faire.

Commentant les déclarations du Dr Pauling au sujet des radiations, le Dr Lussier ajoute qu'il peut y avoir danger si les gens de la profession ne prenaient pas tous les moyens à leur disposition pour se protéger eux-mêmes et aussi leurs patients. En général, le chirurgien-dentiste est au courant de la technique à utiliser pour éviter les radiations secondaires.

Le Dr Lussier, conscient quand même d'un danger possible, suggère que la Société dentaire prenne les devants au moyen de communiqués à la presse ou de conférences de presse, pour faire bien comprendre au public que la profession dentaire a toujours été consciente du problème et que ses membres tentent d'éliminer les moindres risques de radiations. Il propose aussi une commission d'enquête formée d'experts qui visiteraient les bureaux dentaires pour aider le praticien à éviter le plus possible les pertes inutiles de radiations.

Le Dr deMontigny conseille de se référer au rapport de l'A.D.C. qui a mené une grande enquête à ce sujet.

Le Dr P. Ament est présenté à un vaste auditoire par le Dr R. E. Lussier.

Le Dr Ament, qui propage la science hypnotique depuis une vingtaine d'années, nous parle du chemin parcouru par cette science et son organisation de contrôle chez ses adeptes.

L'hypnotisme est un phénomène naturel que nous pratiquons tous à différents degrés, une sorte de rêverie qui nous fait oublier notre entourage pour nous transporter dans un autre monde. Pour le praticien en chirurgie dentaire ou le spécialiste, il y a de multiples avantages qu'aucun autre médicament peut offrir. La facilité de compréhension du caractère du patient, la détente, même dans un fauteuil dentaire sont des facteurs de coopération non négligeables.

L'hypnotisme éloigne les obstacles comme la salive, le sang, les vomissements, les contractions, prépare le patient pour une intervention chirurgicale, comme après l'intervention. Au point de vue rapidité anesthésique, la science hypnotique dépasse tous les matériels à anesthésie. Avant de terminer sa conférence, le Dr Ament fait remarquer qu'il ne faut employer l'hypnotisme qu'avec discrétion et pour des raisons médicales seulement. Une démonstration sur patient permit au conférencier de convaincre les derniers hésitants que les avantages apportés par la science hypnotique sont pour le praticien, renversants.

Relevé sur l'économie de l'exercice dentaire de 1958

I) AVANT-PROPOS

L'Association dentaire canadienne, pour répondre à de nombreuses demandes qui lui viennent des gouvernants, d'agences qui s'occupent de santé, etc. et aussi pour renseigner ses propres membres, a entrepris un relevé de l'économie de l'exercice dentaire au Canada pour l'année 1958.

Une association nationale ne peut plus, en face d'organismes qui ont à leur emploi des experts en statistique, répondre avec des "impressions"; il faut avoir à sa disposition des **faits**, qui s'appuient sur des statistiques sûres. Par exemple, une profession ne peut faire machine arrière—si elle découvre que les chiffres qu'elle a fournis à un gouvernement pour qu'il établisse une législature se rapportant à la santé sont erronés: il est trop tard, la loi a été votée et cette profession, ce pourrait être le cas de la dentisterie, ferait figure de bien piètre source de renseignements.

Les dentistes qui exercent actuellement seront curieux de connaître les résultats de cette enquête. Les revenus et les dépenses inhérents à l'exercice d'une profession oscillent selon des facteurs qui varient d'une année à l'autre. On constate, en analysant les statistiques, que, par exemple, les revenus changent en rapport avec la durée des rendez-vous, le nombre des employés d'un cabinet, le nombre de fauteuils, le genre d'installation, etc.

On établit un programme de santé dentaire en se basant sur le nombre de patients traités chaque année, sur la moyenne des séances consacrées à chaque patient et sur le nombre d'heures ouvrables d'un dentiste durant une année.

L'Association dentaire canadienne a collaboré à une enquête de ce genre qui avait été entreprise pour les années 1941, 2, 3, 4 par l'Office national de la Statistique. En 1953, l'A.D.C. a mené seule une enquête assez détaillée; et les données de ce relevé de l'exercice dentaire ont été acceptées unanimement par tous les organismes intéressés. Cette enquête que l'A.D.C. vient de compléter pour l'année 1958, afin qu'on puisse en comparer les résultats avec celle d'il y a cinq ans, a été conduite à peu près de la même façon.

Des questionnaires, imprimés en anglais et en français, ont été expédiés, le 13 février 1959, à 5,698 dentistes. Une lettre d'explications et une enveloppe de retour affranchie accompagnaient cet envoi. La date ultime pour le retour avait été fixée au 30 avril 1959.

A cette date, 40% des dentistes avaient répondu, soit un total de 2,228, en excluant les questionnaires qui avaient été mis de côté pour diverses raisons. Les provinces ont répondu dans des proportions diverses. Voici un tableau du pourcentage des réponses par provinces:

Terre-Neuve	58%
Ile-du-Prince-Edouard	33%
Nouvelle-Ecosse	28%
Nouveau-Brunswick	25%
Québec	26%
Ontario	36%
Manitoba	30%
Saskatchewan	45%
Alberta	42%
Colombie britannique	36%
Tout le Canada	39%

En 1953, environ 31% des dentistes du Canada avaient répondu au questionnaire; cette année, 39% ont répondu et cette proportion est suffisante pour donner une idée assez juste de la situation.

La deuxième partie du relevé comprend le revenu comparé à l'âge des dentistes et à l'endroit où ils exercent. Les résultats des autres parties de l'enquête seront publiés dans les Lettres aux Gouverneurs et, plus tard, dans le Journal. On pourra, quand les rapports auront tous été publiés, se procurer des copies du Relevé sur l'Economie de l'Exercice dentaire de 1958.

II) REVENUS EN RAPPORT AVEC L'ÂGE ET LA LOCALITÉ

(Le mot "moyenne" des tableaux qui suivent veut dire "moyenne des revenus". On obtient ces chiffres en additionnant tous les revenus et en les divisant avec le nombre des revenus additionnés.)

On entend par revenus nets les argents perçus par les dentistes pour des services professionnels, moins les dépenses, avant la déduction de l'impôt sur le revenu. Les réponses reçues de toutes les parties du pays et de dentistes de tous les âges nous permettent de considérer cet échantillonnage comme assez juste pour illustrer les conditions, qui existent au Canada. On peut donc, sans beaucoup d'erreur, appliquer les résultats de cette enquête à tous les dentistes exerçant aujourd'hui.

Le dentiste travaillant pour lui-même a gagné en 1958 des revenus bruts de \$19,765.00 (\$14,617.00).* Il a donc, avant de payer ses impôts et sans compter les bénéfices qui ne sont pas inscrits dans ses livres, gardé

*Les chiffres entre parenthèses sont ceux de l'enquête de 1953.

pour lui 52.9 cents (51.5) de chacun des dollars reçus. Les revenus nets s'établissent dans une moyenne de \$6,369., pour la province de l'Île-du-Prince-Édouard, à \$11,855., pour la Colombie britannique. En 1953, cette moyenne s'établissait pour les dentistes travaillant à leur compte de \$5,816., pour Québec, à \$9,313., en Saskatchewan.

Il est impossible d'équilibrer quelques chiffres contenus dans les tableaux suivants. Par exemple, dans le tableau no 1, l'addi-

tion des moyennes des revenus nets à la moyenne des dépenses ne donne toujours les mêmes chiffres que ceux fournis pour la moyenne des revenus bruts. Il faut en trouver la raison dans le fait que quelques dentistes n'ont pas répondu à toutes les questions: quelques-uns ont donné un chiffre pour le revenu net mais, rien pour leur revenu brut, ni leur moyenne de dépenses; d'autres, deux chiffres et non le troisième, et ainsi de suite.

TABLEAU NO 1
Moyenne des revenus des dentistes travaillant à
leur compte, par province
1958

Province	moyenne du revenu net	moyenne des dépenses	moyenne du revenu brut	pourcentage du revenu net en rapport avec le revenu brut
Vides	\$12,486	\$ 8,226	\$20,888	60.0%
Colombie britannique	11,855	9,865	23,081	51.4
Alberta	10,820	8,588	20,138	53.7
Saskatchewan	11,522	10,183	24,397	47.2
Manitoba	10,279	8,447	19,716	52.1
Ontario	10,913	8,660	20,125	54.2
Québec	8,475	7,136	16,299	52.0
Nouveau-Brunswick	9,732	8,641	18,440	52.8
Nouvelle-Ecosse	8,681	6,708	16,501	52.6
Île-du-Prince-Édouard	6,369	4,757	11,354	56.1
Terre-Neuve	9,100	9,306	18,745	48.5
Canada	10,453	8,505	19,765	52.9
Dentistes salariés moyenne du revenu net	7,529			

relevé de l'exercice dentaire de l'A.D.C.: 1958.

TABLEAU NO 2
Revenu moyens des dentistes travaillant pour eux-mêmes
1959

Province	revenu moyen net	moyenne des dépenses	revenus moyens bruts	pourcentage de la moyenne des revenus moyens nets comparé aux revenus moyens bruts
Vides	\$ 8,000	\$ 9,046	\$18,000	44.4%
Terre-Neuve	9,969	10,488	21,115	47.2
Île-du-Prince-Édouard	5,662	2,950	8,290	68.3
Nouvelle-Ecosse	9,500	7,000	16,000	59.4
Nouveau-Brunswick	9,454	7,000	17,000	55.6
Québec	8,198	6,500	15,016	54.6
Ontario	11,130	8,351	20,000	55.7
Manitoba	10,850	8,053	19,000	57.1
Saskatchewan	12,106	9,356	22,377	54.1
Alberta	11,500	9,109	20,353	56.5
Colombie britannique et Yukon	12,500	10,000	22,839	54.7

relevé de l'exercice dentaire de l'A.D.C.: 1958

TABLEAU NO 3
 Pourcentage du nombre des dentistes en rapport
 avec les revenus nets pour
 1958

revenus nets	tous les dentistes	dentistes travaillant à leur compte	dentistes salariés
Vides	7.3%	8.6%	2.2%
1- 949	.9	.7	1.6
950- 1,949	1.3	1.6	
1,950- 2,949	1.9	1.6	3.2
2,950- 3,949	2.6	2.4	3.8
3,950- 4,949	2.9	2.7	2.9
4,950- 5,949	4.4	4.3	4.5
5,950- 6,949	6.2	4.4	17.5
6,950- 7,949	6.9	5.5	15.6
7,950- 8,949	9.3	6.7	25.2
8,950- 9,949	7.7	7.1	11.5
9,950-10,949	8.1	8.6	5.5
10,950-11,949	6.2	7.0	1.9
11,950-12,949	5.9	6.6	2.2
12,950-13,949	5.2	5.8	.3
13,950-14,949	4.4	5.2	.6
14,950-15,949	4.2	4.8	.3
15,950-16,949	2.6	3.1	.3
16,950-17,949	2.5	2.6	
17,950-18,949	2.7	3.1	.3
18,950-19,949	1.2	1.3	.6
19,950-24,949	3.4	4.1	
24,950-29,949	.9	1.1	
29,950 plus	.9	1.1	
Total	100.0	100.0	100.0

relevé de l'exercice dentaire de l'A.D.C.: 1958.

Le tableau no 3 montre qu'en 1958 un peu plus de la moitié des dentistes travaillant pour eux-mêmes ont des revenus nets qui oscillent entre \$6,950. et \$14,949. En 1953, à peu près le même nombre de dentistes avaient des revenus nets entre \$4,950. et \$10,949. Un peu plus de 21% des dentistes travaillant pour eux-mêmes en 1958 ont fait des revenus de plus de \$14,949. tandis qu'en 1953, seulement 20% des dentistes avaient des revenus nets de plus de \$10,949. Les dentistes salariés, dans une proportion de 69%, ont gagné en 1958 de \$5,950. à \$9,949. En 1953, ces mêmes dentistes dans une proportion de 69% gagnaient de \$4,950. à \$7,949. Le groupe le plus nombreux des dentistes salariés, représentant 25% du total, ont gagné en 1958 entre \$7,950. et \$8,949. La proportion de dentistes salariés gagnant plus de \$10,949. est restreinte; elle est de 6.5%, mais, depuis 1953, elle est montée de 1.2%.

La moyenne indiquée dans le tableau no 2 représente le revenu moyen établi par la

classification des revenus par ordre d'importance, c'est-à-dire des plus élevés au plus bas. L'enquête de 1953 ne contenait pas ces renseignements; alors il ne peut y avoir de comparaison.

Le tableau no 4 montre que 23.4% (21.3%) des dentistes du Canada exercent dans des villes d'une population de 500,000 habitants et plus, 19.1% (25.2%) travaillent dans des centres où la population est de 10,000 et moins. La moyenne la plus élevée des revenus nets se trouve dans les villes dont la population est de 50,000 à 100,000 (250,000 à 500,000). La moyenne des revenus nets des dentistes qui pratiquent dans des villes de moins de 10,000 de population est perceptiblement plus basse que celle des dentistes des villes plus peuplées, quoique ceux qui se trouvent dans des villes de plus de 500,000 habitants se classent sixième dans l'ordre des revenus nets, comme le montre le tableau no 4.

TABLEAU NO 4

Moyenne des revenus nets des dentistes travaillant à leur compte en rapport
avec la population des villes où ils exercent
1958

population des villes	pourcentage des réponses	moyenne des revenus nets
Vides	1.1%	\$ 7,338
moins de 1,000	1.0	5,794
1,000— 2,500	3.7	6,663
2,500— 5,000	6.2	8,079
5,000— 10,000	8.2	9,671
10,000— 25,000	13.9	10,750
25,000— 50,000	10.5	11,192
50,000—100,000	8.9	11,789
100,000—250,000	14.1	11,533
250,000—500,000	9.0	11,415
500,000 plus	23.4	10,294
Total	100.0	

relevé de l'exercice dentaire de l'A.D.C.: 1958.

TABLEAU NO 5

Age des dentistes et moyenne de leur revenus
1958

âge	tous les dentistes	dentistes travaillant à leur compte			dentistes salariés
	moyenne de revenu net	moyenne du revenu net	moyenne du revenu brut	pourcentage du revenu net avec le revenu brut	moyenne du revenu net
Vides	\$12,120	\$12,381	\$22,127	56.0%	\$6,900
Moins de 25 ans	3,065	2,639	7,170	36.8	3,776
25-29	7,799	8,506	16,507	51.5	5,258
30-34	11,767	12,167	22,144	54.9	7,633
35-39	11,606	12,098	22,318	54.2	8,116
40-44	11,301	11,666	22,242	52.5	8,543
45-49	11,635	12,044	24,178	49.8	9,302
50-54	10,427	10,701	19,082	53.7	8,956
55-59	9,694	9,888	19,910	49.7	8,628
60-69	7,587	7,526	14,631	51.4	7,869
65-69	6,699	6,515	12,114	53.8	8,236
70-74	4,909	4,912	9,517	51.6	4,886
75-	1,294	1,406	8,938	15.7	733

relevé de l'exercice dentaire de l'A.D.C.: 1958.

TABLEAU NO 6

Dentistes travaillant à leur compte

Rapports de l'année de graduation avec les revenus nets de 1958

année de graduation	moyenne des revenus nets
Vides	\$10,407
1903	1,004
1904-1908	4,276
1909-1913	4,887
1914-1918	7,383
1919-1923	7,133
1924-1928	9,583
1929-1933	11,670
1934-1938	11,374
1939-1943	11,666
1944-1948	11,982
1949-1953	12,423
1954-1958	8,370

relevé de l'exercice dentaire de l'A.D.C.: 1958.

Le tableau no 5 donne des renseignements sur les rapports qui existent entre la moyenne des revenus nets et l'âge des dentistes. On y voit que la moyenne la plus élevée des revenus nets se trouve chez les dentistes qui travaillent pour eux-mêmes et qui ont de 30 à 34 ans; cette moyenne est de \$12,167. Ce groupe est suivi de près par ceux qui ont de 45 à 49 ans et par ceux qui ont de 35 à 39 ans. En 1953, les dentistes qui avaient les revenus nets les plus considérables étaient ceux de 35 à 39 ans et cette

moyenne était de \$9,272. Il s'est écoulé une période de cinq ans entre les deux enquêtes et ceux qui, en 1953, avaient de 35 à 39 ans sont devenus ceux de 40 à 44 ans. Il est intéressant de noter que ce groupe qui avait les plus gros revenus en 1953 sont en quatrième place, en 1958. Le changement qui s'est fait chez les dentistes qui ont de 30 à 49 ans est seulement de \$500. Il y a une baisse considérable dans les revenus nets des dentistes qui ont 50 ans et plus.

TABLEAU NO 7

Estimé du revenu total des dentistes du Canada

(milles dollars)

	1953	1958
nombre des dentistes travaillant à leur compte	4,950	5,311
nombre des dentistes salariés	350	439
revenus bruts des dentistes travaillant à leur compte	\$72,354	\$105,083
revenus nets de dentistes travaillant à leur compte	37,328	55,575
revenus des dentistes salariés	2,024	3,283
Total des revenus nets de tous les dentistes	39,352	57,362

relevé de l'exercice dentaire de l'A.D.C.: 1958

Les dentistes finissent leurs études à des âges différents; le tableau no 6 montre les rapports qui existent entre les revenus nets et le nombre d'années en pratique; ce tableau indique les années de graduation. Les dentistes qui ont quitté l'Université de 1949 à 1953 sont ceux qui ont les plus gros revenus nets en 1958; ceux qui ont terminé leurs études de 1944 à 1948 se classent deuxième. En 1953, les finissants de 1939 à 1943 étaient les premiers, suivis de ceux de 1934-38. En 1953, les dentistes qui avaient de 10 à 15 années de pratique étaient ceux qui avaient les plus gros revenus nets. De même, en 1958, ceux qui pratiquent depuis 10 à 15 ans, sont ceux qui ont les revenus nets les plus considérables.

Rappelons-nous que les montants en dollars apparaissant dans le tableau no 7 sont

des estimés. On a obtenu ces estimés en comparant les données du relevé avec le nombre de tous les dentistes qui travaillent en 1958 pour eux-mêmes et les dentistes salariés du pays tout entier. Alors, comme 1,914 dentistes travaillant à leur compte ont rapporté avoir un revenu net total de \$20,007,000., nous pouvons supposer que les 5,311 dentistes du Canada ont un revenu net total de \$55,575,000. On calcule aussi, en se servant de la même méthode, que le revenu net total de tous les dentistes du Canada, en 1958, était de \$57,362,000.

La troisième partie du relevé traite des rapports qui existent entre les revenus et le genre d'équipement utilisé et le temps consacré à la pratique. Cette troisième partie paraîtra le mois prochain.

Nouvelles du Corps Dentaire Royal Canadien

Des officiers supérieurs des Services dentaires britanniques visitent notre Corps dentaire

Au cours de septembre, le Corps dentaire royal canadien avait le plaisir d'accueillir deux distingués officiers dentistes du Royaume-Uni, venus en Amérique du Nord, pour assister à la Conférence internationale sur l'art dentaire militaire, qui s'est tenue à West Point, New-York.

Le major-général H. Quinlan, Q.H.D.S., B.D.S., directeur des Services dentaires de l'Armée britannique, a été l'hôte de la Direction des Services dentaires, à Ottawa, le 8 septembre. Puis, accompagné du brigadier K. M. Baird, il a visité les installations du R.C.D.C. à l'Ecole du Corps dentaire royal canadien, à Camp Borden, ainsi qu'à la Station de l'ARC, à Trenton (Ont.), après s'être rendu à New-York pour assister à la conférence.

Le contre-amiral (D) C.J. Finnigan, L.D.S., sous-directeur général des Services dentaires (Marine britannique) s'est arrêté à Ottawa, le 23 septembre, en revenant de la même conférence. Après avoir passé une journée à la Direction des Services dentaires, il s'est rendu à Camp Borden, pour y visiter l'Ecole du R.C.D.C.

Milice du R.C.D.C.—Concours de compétence générale—1959

Le Quartier-général de l'Armée a annoncé les résultats du concours de compétence générale (Milice), pour 1959. Ces résultats sont les suivants:

Le trophée Moore qui est décerné à l'unité de Milice jugée la plus compétente au cours de l'année d'instruction, a été gagné pour la troisième année consécutive

par la 50e Unité des Services dentaires, à Halifax, dont le commandant est le lieutenant-colonel G.C. McLeod. La 50e Unité a droit à des félicitations pour ses nombreux succès. Cette unité s'est non seulement mérité le trophée Moore trois années de suite, mais elle l'a également gagné quatre fois au cours des six dernières années et elle est arrivée au second rang en une autre occasion.

Le trophée Trelford qui est attribué à l'unité qui se classe au second rang dans le concours, a été gagné par la 54e Unité des Services dentaires, à Ottawa, dont le commandant est le lieutenant-colonel C.E. Woods.

La 51e Unité des Services dentaires, à Saint-Jean (N.-B.), commandée par le lieutenant-colonel G.L. Ramsay, a reçu le trophée Memorial de l'Association dentaire de la Saskatchewan. Ce trophée est attribué à l'unité de Milice qui a fait le plus de progrès en compétence générale au cours de l'année d'instruction.

Le brigadier Baird et le colonel Shillington visitent les Etats-Unis

Le brigadier K.M. Baird, directeur général des Services dentaires, et le colonel G.B. Shillington, sous-directeur général, ont assisté à la Conférence internationale sur l'art dentaire militaire à la United States Military Academy, à West Point, New-York, le 11 septembre, puis à la 100e session annuelle de l'American Dental Association, à New-York.

Durant son séjour à New-York, le colonel Shillington a également assisté à la trente et unième réunion annuelle de l'American Denture Society.

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